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ABSTRACT

A study was conducted to provide additional information for understanding the participation of older adults in educational activities. The general hypothesis was that a significant relationship exists between personality type and extent of participation in education of older adults. Questionnaires collected information from 52 volunteers from the Wilder Senior Citizen's Center and Wilder Senior Aides Program in St. Paul, Minnesota. Instruments used were the Keirsey Temperament Sorter (KTS), a 70-item questionnaire to ascertain personal preferences of the respondent, and the Abbreviated Leisure Activities Survey (ALAS) that measures extent of participation. Findings showed that the older adult subjects were all involved in learning activities. On the KTS the majority of subjects scored high on the extroversion scale and low on the perception scale. The more extroverted and intuitive older adult was found to participate more in educational activities than persons scoring low on these variables. Implications and recommendations resulting from study findings concerned planning programs that appeal to extroverted and introverted personality types, planning educational experiences incorporating traits of intuities, focusing programs on practical hands-on learning experiences, and teacher understanding of people's personality types. (Survey instruments and data are appended.) (YLB1

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THE RELATIONSHIP BETWEEN
PERSONALITY TYPE AND THE PARTICIPATION
IN EDUCATION OF OLDER ADULTS

A Study
Presented to
the Faculty of the Graduate School
University of Minnesota

In Partial Fulfillment
of the Requirements for the Degree of
Master of Arts in Education

by

Betsy I. Gerads

July, 1981

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The study would not have been possible without the cooperation of the 60 older adults from the Wilder Foundation. I am grateful to the typist, my friend Susan Holmen, for her support and keen eye for detail.

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RE: Methodological Protocol # 1.

Dear *Ms. Gerads*:

Your Methodological Protocol Request for Approval was received in the Committee office on 4/21/81, and has been administratively approved on 4/22/81 as within the guidelines of the referenced Methodological Protocol.

I would like to remind you that it is the responsibility of the investigator to bring to the attention of the Committee any proposed change in the project or any emergent problems that will affect human subjects.

On behalf of the Committee, I wish you luck with your research.

Sincerely,

Anne Munro

Anne Munro
Executive Secretary to the
Committee on the Use of Human
Subjects in Research

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Chapter I

INTRODUCTION

American society places a high value on both youth and education. Regrettably, often these two variables are seen as only happening concurrently. Cliches such as "You can't teach an old dog new tricks" continue to exemplify attitudes toward the human condition, and older adults are treated as though learning should not be a part of their endeavors. There has been an increase in support of the idea of life-long learning, but general attitudes about learning ability of the older adult and the lack of participation by older adults continues to be of concern to adult educators.

The Problem

Recent literature indicates that age does not reduce intellectual curiosity or capacity. Jones found that no studies reported changes with age serious enough to prevent older adults from meaningfully participating in education (Jones, 1979, 353). Despite the many myths to the contrary, older people can learn, and as Beverly (1976) notes, given the chance and encouragement most older adults can and want to continue to grow mentally. Continued personal growth and social and educational involvement promote optimal functioning and self esteem. There is evidence that life satisfaction is higher for those with more education. Agruso (1978) contends that continued education is vital to older adults both for preventing obsolescence and for enhancing the acquisition of knowledge. Regardless, it is generally

recognized that older adults have limited participation in educational activities (Agruso, 1978, 131).

Much of the early research in adult education participation focused on involvement in formal and informal educational activities (Brunner et al., 1959). Since then, in attempting to understand participation patterns, the preponderance of research with older adult samples has been within the domain of assessing needs and interests of the elderly (Hiemstra, 1972, 100), their patterns of participation (Jones, 1979, 350), and barriers to participation (Hiemstra, 1975, 45). Yet, too little is known about individual differences and motivation of the older adult population and if these differences are associated with differences in continuing education activity among older adults.

People are different in some very fundamental ways--their interests, values, motives, habits of mind, and perceptions differ from person to person. Too little is known about individual preferences, which often are the basis for behavior and for decision-making.

Theoretical Background

Two measurement instruments have been developed for revealing personality type in individuals. Personality type is used here to describe a collection of characteristics which make one individual distinguishable from another. Psychologists have long realized the importance of both environmental and personality variables in the explanation of behavior. Carl Jung developed one of the most comprehensive theories to classify human personality. Isabel Myers

and David Keirsev can be credited with putting Jung's typology theory to practical use.

The problem of understanding educational participation of adults has received considerable attention from researchers. A measurement instrument designed for measuring an adult's total educational activity was designed by Litchfield (1965). Educational participation is viewed here as the extent to which adults seek to improve themselves or their society by increasing their skill, their knowledge, or their sensitivity. Litchfield's study of a general adult population gave attention to the total educational participation of adults, from formal education to self-planning. She contended that educational research must now focus on the questions of the degree and kinds of educational participation in which adults are engaged.

Purpose of the Study

The general goal of this study was to provide additional information for understanding the participation of older adults in educational activities. Therefore the purpose of this study was to answer the following question: Does a relationship exist between personality type and the extent of participation in education of older adults? Personality type was selected as an indicator of individual differences because of the role of personality in influencing human behavior. Educational activities included voluntary efforts by older adults to improve their knowledge, skill or attitude during their leisure time.

Definition of Terms

To better understand some of the issues presented in this study and to eliminate ambiguity, the definitions of key terms follow.

Educational participation: The extent to which adults (alone or in groups, or in institutional settings) seek to improve themselves or their society by increasing their skill, their knowledge, or their sensitivity (Houle, 1972, 229).

Leisure activities: Activities people do voluntarily, in their spare time. Spare time or leisure time here means all time free from work, sleep, or household tasks (Litchfield, 1965).

Older adult: A person sixty years old and older.

Personality type: A collection of characteristics which make one individual distinguishable from another, defined here as preferences for: Extroversion-Introversion, Intuition-Sensing, Feeling-Thinking, and Perception-Judging (Stalcup, 1967, 16).

Hypotheses

For the purposes of this study, it was hypothesized that there would be a significant relationship between certain personality types of older adults and the extent of their participation in educational activities.

The following null hypotheses were formulated to determine each of the four personality variables and extent of educational participation.

Ho₁: There is no significant relationship between the degree of extroversion and extent of participation in educational activities of older adults.

Ho₂: There is no significant relationship between the degree of intuition and extent of participation in educational activities of older adults.

Ho₃: There is no significant relationship between the degree of feeling and extent of participation in educational activities of older adults.

Ho₄: There is no significant relationship between the degree of perception and extent of participation in educational activities of older adults.

Plan of Study

The data obtained in this study were gathered through two standardized questionnaires, personally administered to people ages sixty and older, affiliated with the Wilder Foundation in St. Paul, Minnesota. At the time of the data collection in May, 1981, the subjects were either working as Senior Aides or were participants in the programs of the Wilder Senior Center, St. Paul, Minnesota. Subjects were approached in groups at the Senior Center and invited to participate in the study. A total of fifty-two usable questionnaires were collected and analyzed to provide the data on which the results were based.

Significance of the Study

Psychologists have long realized the importance of both environmental and personality variables in the explanation of behavior. In recent years there has been an increased

interest in the study of personality variables and personality change over the lifespan. However, the literature shows few studies which have been devoted to personality variables related to participation in education.

The planners of education programs for older adults often do not have a sound understanding of personality types and motivation for participation in education. These fundamental differences need to be given higher priority in planning programs and teaching adults. Educators need to improve their ability to meet the needs of their clientele.

A better understanding of complex behavior patterns can be gained by studying the relationship between participation patterns and personality variables. Exploratory studies are particularly useful because so little research has been done in this area.

Summary

The present chapter sought to define the problem and purpose of the study; to discuss briefly the issue of low participation by older adults in education, to define the terminology and the study plan used in this study, and to state the rationale for conducting the study.

Chapter II

REVIEW OF RELATED LITERATURE

Introduction

The purpose of this literature review was to summarize the results of previous research as it applied to the variables included in this study. First, a review of demographic information related to the older adult population and their needs as a group is presented.

The dependent variable in this study was participation of older adults in education programs. Thus, the review examined educational participation studies relating to older adult patterns of participation, barriers to participation, and benefits of involvement in education programs.

The personality typology, as theorized by Carl Jung, was examined and information summarized regarding the theoretical framework, the values and implications for use by educators. With this background from the literature, the major hypothesis was posed.

Characteristics of Older Adults

People are living longer. Today the elderly make up ten percent of the population. Current projections indicate that by 2000 A.D., there will be over 30.6 million persons over the age of sixty-five, making up 12.2 percent of the population, or one in eight persons (Harris, 1979, 3). The elderly are currently one of the largest minority groups in the United States.

While elderly population figures climb, the aging continue to age, as Harris states:

The 75-and-over bracket has grown more rapidly since 1900 than has the 65 - 74 age bracket. In 1900, the upper age group represented 29 percent of the 65-and-over population. In 1975, that same group represented 37 percent of the 65-plus population (Harris, 1979, 3).

More persons living longer, coupled with increasing leisure, have created a demand for new educational opportunities. In addition, continued education becomes imperative if each person is to cope with the knowledge explosion, keep learning skills sharp, understand societal differences as they evolve, and adapt to the aging process.

An American retiring today can expect to live another twenty years. Cross and Florio (1978), in You Are Never Too Old To Learn, contend that "there must be a great increase in adult education to develop intellectual, artistic, manual and athletic skills of all kinds." Older adults tend to be faced with numerous personal and social problems. These include needs such as learning a new vocation, keeping mentally active, and developing avocational interests. The necessity for personal growth includes the need for self-expression, for productive and creative activity, for health--both physical and mental, for recognition, for participation, and for opportunities to contribute to the community. "One of the most common complaints of older people is that they have nothing to do, and therefore feel useless, lonely, and discouraged" (Donahue, 1950, 99).

Heisel (1980), in his study of disadvantaged older adults, examined recent findings on demographic and social characteristics of today's older population. The majority of older people are women; most older adults live in central cities or in rural hinterlands; the income of older adults is substantially lower than that of other age groups; and their years of schooling are well below the national level (Heisel, 1980, 126). Heisel summarized his review with strong sentiments:

The majority of older adults are educationally, socially, and financially disadvantaged...More attention will have to be paid to disadvantaged, older adults--the poor, the minority elderly... We have to know more about them; we must make adult education one of the vehicles through which they can be brought back into the mainstream of society (Heisel, 1980, 135).

The benefits of participation by older adults in educational and social programs have been studied, producing some interesting results. Turner (1975) and Toseland (1977) have conducted research studies with older adults in nursing homes and senior centers, respectively. Both researchers were interested in life satisfaction in relationship to participation in social and educational programs. Turner found a significant difference in the impact on life satisfaction in "participating" residents in the nursing home community orientation program. Toseland was interested in predictors of life satisfaction. His findings support Turner's in that activity level in the senior center was the most important predictor of life satisfaction.

Kawbori (1971) studied the correlation between education, income, diet, interests, physical problems, and psychological disturbance of 125 low income elderly in Oregon. Definite correlations were found among all of the above variables (Kawbori, 1971, 73). A pattern found in this study which supports past research in this area, indicated that educated elderly seem to have many advantages over their non-educated counterparts.

All of the studies cited uphold the value of lifelong learning and older-adult participation in educational programs; yet enrollment of older adults in education is extremely low--much lower than in other age groups. In 1975 only two percent of adults sixty-five years and older participated in adult education programs (Heisel, 1980, 127). Many of the various attempts to improve this figure--extensive advertising, vigorous recruitment, reduced fees, and special course offerings--have had little impact. This poses a challenge to public and private planning agencies charged with the responsibility for planning and providing educational opportunities for older adults.

Educational Participation

The problem of understanding participation patterns and barriers to participation in adult education has received considerable attention from researchers during the past twenty years. Brunner et al. (1959) provided a useful summary of the participation research prior to 1959. The most significant determinant of participation found by Brunner

et al. was previous schooling. Other factors influencing participation include age, occupation, income, nationality, and accessibility (Brunner et al., 1959, 95-98).

Similar findings are reported by Houle (1961) in his compilation of several formal and informal participation studies. Houle summarized eleven factors that influenced participation in education by adults:

Income, size of community, length of residence in the community, number of education activities available, nationality, religion, age, marital status, family life cycle stage, occupation, amount of formal education (Houle, 1961).

Other studies have given attention to the total educational participation of adults, from formal education to self-planned learning (Litchfield, 1965; Fisher, 1980). Litchfield felt that an important clarification which resulted from her studies, is that "there no longer is any validity to the belief that there are 'participants' and 'non-participants' in adult education. All men and women partake of some adult education to some extent. The focus now must be on the questions of the degree and kinds of that participation" (Litchfield, 1965, 19). Fisher's study of the roles of Minnesota farm wives and their patterns of educational participation indicated that all farm wives participated in education activities to some degree. Several factors were associated with their involvement in continued learning:

Level of education, number of years married, number of children living at home, income, and outside assistance with farm labor (Fisher, 1980, 176).

These studies emphasize the fact that participation is clearly a multivariate phenomenon. A great deal of information is available about educational activities and participation patterns of adults, however, a gap exists in our knowledge about the factors which influence the educational participation of older adults. Few investigators have dealt with the participation patterns and factors influencing the participation of older adults in educational activities.

The extent of older adults' participation in education was considered in the participation study done by Johnstone and Rivera for the National Opinion Research Center's National survey of adult participation (Johnstone & Rivera, 1965). They found that both age and years of formal schooling played a major role in relation to the rates of participation in adult education. The enrollment of older adults in education was quite low when compared with other age groups. As Johnstone and Rivera observed, "There were vast differences between persons in different age brackets; the (participation) rates fell from a high of 29 percent among adults in their twenties to 4 percent among persons seventy or over" (Johnstone & Rivera, 1965, 6).

Hiemstra (1972, 1975) has conducted several studies in an attempt to gain an understanding of the needs, interests, and patterns of participation among older adults. Factors which affect participation, as identified by Hiemstra, are: transportation, don't like to go out at night, can learn by self, courses not interesting, not enough time, cost, job,

and home responsibilities. Based on these findings, Hiemstra made the following summary:

1. Transportation problems and educational activities offered in the evenings are factors limiting older people's participation.
2. More educational programs and activities should be offered in residential or senior citizen centers.
3. The interests and needs were varied, but special attention should be given to instrumental forms of activities and courses (activities designed for effective mastery of old-age challenges) (Hiemstra, 1972, 109).

Administrators of education programs for older adults are trying to understand participation patterns to broaden involvement in their programs. Robinson (1975) felt that one way to start would be to gather information about the characteristics which differentiate most clearly participants and nonparticipants in education programs. Robinson, in his analysis of 453 interviews with seniors, made the following conclusions:

1. A senior who is active in community affairs is more likely to participation in adult education.
2. Senior citizens who participate in adult education consider themselves healthier than nonparticipants.
3. Senior citizen participants in education have a higher income than nonparticipants.
4. Senior citizen participants in education activities participated in education activities more ten years ago then did nonparticipants.
5. Senior citizen participants in education reported that their mother placed more emphasis on good grades than the mothers of nonparticipants.
6. Senior citizen participants in education activities think that education is more important to their spouses than do nonparticipants.

7. More senior citizen participants in education activities think that their most admired friends and relatives participate in such activities than do nonparticipants (Robinson, 1975, 236).

The findings regarding the reasons for lack of participation by disadvantaged older adults, reported by Heisel (1980), were a lack of confidence in their ability to learn, defeats in earlier education experiences, and/or a feeling of being too old (Heisel, 1980, 130).

In summary, participation in education by older adults is quite low. From studies in participation research, prior educational attainment is identified as the best predictor of continuing learning activity among adults. Furthermore, participation is a multivariate phenomenon; situational, dispositional and institutional factors are perceived by adults of all ages as barriers to their participation.

Personality Type

Personality factors are considered in several studies focusing on an individual's participation in education activities. Brunner et al. (1959) felt that within the voluntary aspect of participation are factors influenced by components of personality and social group life. Also, a measure of personality (organizational accomodation) is useful in explaining variations in extent of leisure time and job-related educational activities among extension educators (Copeland, 1969, 237).

The theoretical framework used in this study is the typology of Carl Jung (1923), and applied through the work of Isabel Briggs Myers (1980). Their work offers a fresh

perspective on people's patterns of dealing with their world. Jung's theory of psychological types was chosen from other personality theories due to the fact that after a review of the literature, this investigator found evidence supporting the theory as well as several reliable instruments designed to ascertain personality type (Jung, 1923, Stalcup, 1967, McCaulley, 1978, and Myers, 1980). A description of Jung's typology and the work of Isabel Myers will be reviewed, along with other research in this area.

Carl Gustav Jung, the Swiss physician-psychologist, developed one of the most comprehensive theories to classify human personality. Jung's theory of psychological types postulates that there are four basic mental functions (intuition, sensing, feeling, and thinking), used by everyone, but not equally preferred and developed.

Jung's theory was that much of what appears to be random variation in human behavior is really quite orderly and consistent, based upon certain inborn differences in the way people use perception and judgment. Every person uses all forms of mental functions, but persons of each function are distinguished by their relative preferences, and by the attitudes with which they use them (Myers, 1980, 2).

Isabel Briggs Myers must be credited with putting Jung's typology to practical use. Myers, along with her mother, Katherine O. Briggs, slightly modified and elaborated Jung's typology and developed a procedure for determining "personality type" in individuals--the Myers-Briggs Type Indicator (MBTI).

The MBTI, a paper and pencil instrument, attempts to reveal the following four dimensions of personality type which represent a collection of characteristics making one individual distinguishable from another: Extroversion and Introversion; Intuition and Sensing; Feeling and Thinking; and Perception and Judgment. The Indicator was developed specifically to carry Jung's typology theory to practical use.

Myers has carefully examined Jung's theory and states the theory in terms of the everyday aspects seen in well-balanced people. She contends that "few of Jung's readers appear to have realized that his type theory had a bearing on the familiar daily problem of educating people, counseling them, employing them, communicating with them, and living in the same family with them" (Myers, 1980, 18).

Jung saw his theory as an aid to self-understanding, but the application of the theory extends beyond this point. The type theory gives insight into the way people gather information, the way they make decisions, and the things which they value most. The merit of this theory is that it enables us to expect specific personality differences in particular people and to cope with the people and their differences in a constructive way (Myers, 1980, 1).

Myers (1980), Lawrence (1979), Keirsey (1978), and McCaulley (1978) have studied Jung's typology theory in terms of human-service application under the premise that an understanding of this theory would enable educators and human service persons to be more sensitive to their clientele and

students. They present ways to identify personality type preferences, learning styles, and motivational patterns. Myers, Lawrence, and Keirsey also offer detailed suggestions for ways to improve communication, teaching and learning styles and approaches to educational programming.

The Four Functions

The aforementioned researchers have based their work on the four mental functions of Jung and Myers. The functions will be explained briefly to aid in understanding the personality typology theory.

Jung points out in Psychological Types that humankind is equipped with two distinct and sharply contrasting ways of perceiving. Intuition is the term used for perception of meanings, relationships, and possibilities gained through insight. Sensing is the other term used for the perception process by which we become aware of things directly through our senses (Lawrence, 1979, 2).

A basic difference in judgment arises from the existence of two distinct and sharply contrasting ways of coming to conclusions. Feeling is the term for a process of appreciation, making judgments in terms of a system of subjective, personal values--making decisions based on how you feel. Thinking is a term used to define a logical decision-making process, aimed at an impersonal finding (Myers, 1980, 3).

Jung postulated two fundamentally different attitudes toward the world, which all humans share. In the extroversion attitude, attention flows out--is drawn out--to the

objects and people of the environment. In the introversion attitude, energy seems to flow from the object back to the subject; the introvert's main interests are in the inner world of concepts and ideas, while the extrovert is more involved with the outer world of people and things.

The fourth mental function, perception attitude or judging attitude, is used in the Myer-Briggs Type Indicator as "a way of life, a method of dealing with the world around us" (Myers, 1980, 8). The fundamental difference between the two attitudes is that in the perception attitude people shut off the desire to come to a conclusion--not all the evidence is in, new developments will occur. Conversely, people use judgment and shut off perception for the time being in order to come to a conclusion. The ability to switch temporarily to the opposite attitude when it is really needed can help make for a satisfying life.

Dr. David Keirsey points out some important clarifications in the interpretation of Jung's theory and the preferences:

1. Jung did not say that a person is either one of the other of these four pairs. Rather, one can be extroverted in some degree as well as introverted in some degree, thinking in some degree and feeling in some degree, and so on.
2. Jung did not say that one doesn't change in the extent of preference for one or another of the four differences. As time passes one's preference may strengthen or weaken (Keirsey, 1978, 14).

None of the researchers mentioned have studied the type theory in relation to the older adult population. Jung (1923) and Kimmel (1980), however, contend that personality

traits develop as a result of experience, are considered fairly consistent, and reflect a person's pattern or style of responding to his/her environment throughout life.

As discussed earlier, participation in education by older adults is quite low. Lawrence (1979) contends that an understanding of the personality type theory can greatly help educators be more effective in motivation (Lawrence, 1979, vii). In the case of persons working with older adults, an understanding of the application of personality type theory is potentially valuable in designing education programs, motivating older adults to participate, and in matching preferred teaching/learning styles.

General Hypothesis

For the purposes of this study, the general hypothesis was that there would be a significant relationship between certain personality types of older adults and the extent of their participation in educational activities.

Personality variables are recognized by psychologists as one explanation for behavior. The planners of education programs often do not have a sound understanding of factors influencing the behavior of older adults and their motivation for participation in educational activities. A better understanding of behavior patterns can be gained by studying the relationship between participation patterns and personality variables.

Chapter III

DESIGN OF THE STUDY

Generally this study was designed to secure a better understanding of older adults and their participation in adult education. More specifically, this study was designed to determine if there is a relationship between personality types and the extent of participation in education of older adults.

The purpose of this chapter is to describe the methods and procedures used to obtain data for this study.

Sample for the Study

The subjects used for this study were older adults who, at the time of the data collection, were affiliated with the Wilder Foundation. Volunteers were solicited from the Senior Aides Program and from participants in the on-going activities at the Wilder Senior Center in downtown St. Paul, Minnesota. A volunteer sample was recruited because of the two major advantages of convenience and economy. According to Borg and Gall, "Nearly all educational research must be conducted with volunteer subjects" (Borg & Gall, 1979, 189).

The Wilder Senior Center was selected as the source from which to draw a sample of older adults for the following reasons:

1. The investigator was assured cooperation by the Wilder Foundation in conducting the study.
2. A sample of 60 was sought, thus an agency serving a large older adult population capable of responding to the two questionnaires was needed.

3. Support and interest was shown the Senior Center staff.

The Wilder Senior Center serves persons 60 years and over. Their purpose is to provide a focal point for older persons who are residents of the metropolitan St. Paul area. Activities and special services include educational, leisure, cultural, and health services. In 1979-80, they had a membership of 7,000, with an estimated 3,500 active members.

The Wilder Senior Aide program provides temporary, half-time, subsidized employment for any older person who, for a variety of reasons, finds himself/herself requiring assistance in securing employment. About 82 persons who are residents of the metropolitan St. Paul area, are at least 55 years of age, and who have an annual income that does not exceed current federal poverty guidelines are served by the Senior Aide program.

Sample Recruitment Procedures

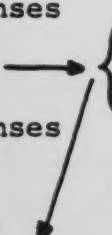
Permission was granted by the Acting Director and Coordinator of the Senior Center to approach various groups while in session and/or talk with members not actively involved in an activity, such as people in the lobby, playing pool, or waiting for their appointment with the nurse.

People were approached at the following activities/locations: active people over 60 (exercise class), clay workshop, discussion group (Tuesday afternoon), discussion group (Thursday morning), lounge, pool room, quilting, Senior Aides program, volunteer sewing, and watercolor painting. After an introduction of the investigator by a

Senior Center staff member, the investigator briefly explained the study: its purpose, the requirements of subjects, the benefits to participation, the assurances of confidentiality, and that participation was voluntary.

In general, all of the people approached were very receptive. Sixty questionnaires were collected, with a final N of 52 completed questionnaires to be analyzed for the basis of this study, as indicated in Table 1 below.

Table 1
Questionnaire Responses

<u>Wilder Senior Citizen's Center</u>	49 responses	
<u>Wilder Senior Aides Program</u>	<u>11</u> responses	
	60 total	
	Total Sample	
	N = 52	

Instrumentation

This part of the report contains descriptions of the measurement instruments, including the rationale for selection, the tests of reliability and validity, the pilot study, and testing procedures. Demographic items included in the survey are also described.

The data for this study were collected in May, 1981 using two instruments. The important factors in determining the

most appropriate instruments to use with older adults were total length of time to respond and complexity of items.

Two instruments have been developed to ascertain personality type: the Myers-Briggs Type Indicator (MBTI) (Myers, 1980), and the Keirsey Temperament Sorter (KTS) (Keirsey & Bates, 1978).

The MBTI is a 126-item questionnaire which has been widely used by researchers.

For the purposes of this study, the MBTI might have been a more reliable instrument to use, but due to its length and varying design of questioning as well as the characteristics of study subjects, it was rejected.

Keirsey Temperament Sorter (KTS)

The measurement instrument selected to collect personality typing data was the Keirsey Temperament Sorter (KTS), a 70-item questionnaire with forced-choice responses designed to ascertain personal preferences of the respondent (Keirsey & Bates, 1978, Appendix A).

The Keirsey Temperament Sorter was selected because it was the shortest and easiest to complete instrument designed to reveal personality type. The average length of time needed for completion was 25 minutes.

Keirsey provided some information regarding the validity of the instrument:

Subject agreement validity for both the Sorter (Keirsey Temperament Sorter) and MBTI (Myers-Briggs Type Indicator) is .5 with each other and .75 for college students. Thus they pick out 50 of 100 the same, then each picks out another 25 correctly, but they're different people, and they both miss 25 of

100 on one dimension or another. I've no idea about the reliability of the Sorter, but my guess is that it's a rather stable test (personal correspondence, Appendix B).

Of interest to the research were comments by subjects regarding the Keirsey Temperament Sorter. Some typical responses were:

"This makes you think...which is good!"

"It (the response) could go either way--it is so hard to decide. It all depends on the situation, which is so very circumstantial."

"I used to be different when I was younger."

"Too many of the questions are ambiguous. On so many of them, a person could be both A and B equally. It all depends on the situation."

Abbreviated Leisure Activities Survey (ALAS)

Extent of participation was obtained using the Abbreviated Leisure Activities Survey (ALAS) designed by Litchfield (Appendix C). The ALAS is a short form of the Leisure Activity Survey, also designed by Litchfield (1965). Measurement of the total educational activity of the adult learner was the goal of this instrument. Participation is measured using three dimensions of participatory behavior: (1) the number of educational activities in which engaged; (2) the extent to which each activity is commonly thought to be entered into for educational reasons; and (3) the amount of time spent in each activity during the past twelve months (Litchfield, 1965).

The Abbreviated Leisure Activities Survey was selected for two reasons. It was easy for subjects to respond to and relatively short. Fisher (1980) and Litchfield (1965)

indicated that the survey could be completed in an average of 20 minutes.

The second reason for selecting the ALAS was that it had been tested for reliability and validity. Litchfield obtained a correlation of .976 for the ALAS items with data from the longer version of the instrument with a total sample of 1,149 subjects. In addition, a validity test was run with pilot study data which gave a score which correlated .98 with the score obtained from the long version of the test (Fisher, 1980, 45).

The ALAS listed 48 leisure activities--21 of the 48 items had been judged to be entered into for educational purposes by a panel of adult educators.

The ALAS items were reviewed by the researcher and a few modifications were made to bring the instrument up-to-date and to provide examples of activities appropriate to older adults.

The most important instrument adaptation made for this study was the retyping of both the KTS and ALAS in large type.

Some comments made by the subjects about the Abbreviated Leisure Activities Survey were:

"This is kind of fun; it reminded me of a lot of things I could be doing."

"I just don't have the time to be doing all these things anymore."

"I just can't do a lot of these things anymore."

Demographic variables were selected to describe personal

and educational characteristics of the sample. Personal characteristics included age, marital status, and sex. Educational characteristics included level of education acquired and frequency of attendance at the Wilder Senior Center (Appendix E).

Pilot Study

On April 22, 1981, a pilot study was conducted with two older adults, married, ages 69 and 76. The purpose of this study was to determine the most appropriate methods of data collection.

Subjects were asked to respond to the following: to identify confusing and/or unclear instructions and questions; to indicate how they felt about the length of time required to answer all the questions; and to indicate whether the ALAS provided a complete picture of the activities in which they were involved.

The results of the pilot study were used to modify the ALAS items slightly and to confirm the researcher's hunch that it would be helpful to leader-administer the instruments to assist some subjects in clarification of items and reduce their anxiety level. Also, it was discovered that about 50 minutes were required to respond to the instruments and no break was needed or wanted between the KTS and the ALAS.

Data Collection

The researcher consulted with the Senior Center staff to review the May program schedule of activities to determine which groups would be the best to approach in terms of size and function.

A flexible schedule was developed and the different groups of people were approached, until the desired sample size was obtained. Each group was given a brief explanation about the study, the researcher, and the time required to participate, followed by an invitation to become involved in the study. Those persons who expressed an interest were given three options: to respond to the questionnaires right at that time, but at a close, quiet location; to meet directly following their class; or to set up an appointment on another day. A reminder slip was given to all subjects making an appointment.

Administration of the instruments varied somewhat. It was proposed that the investigator would administer all the questionnaires in small groups and read the questions aloud. Several subjects indicated a preference to work independently. Conversely, many subjects participated knowing that someone would go through the questions with them. Consequently, the following options were used to collect data:

1. The subject responded by her/himself, asking for clarification when needed.
2. The instruments were researcher-administered, on a one-to-one basis with a subject.
3. The instruments were researcher-administered to a small group of subjects, with no more than eight persons at one time.

Coffee and home-made cookies were offered to all subjects and Senior Center staff. Their responses indicated this was a special touch and a personal way to thank them for helping with the study.

Data Analysis

After the data were collected, the results were processed and analyzed in the following phases:

1. The Keirsey Temperament Sorter was hand-scored and coded in a numerical form that could be read by a key punch operator. The Abbreviated Leisure Activities Survey items were coded to the right for easy entry into the computer. The scoring information can be found in Appendix G.
2. Frequency distributions and measures of central tendency were used to summarize the demographic data and to analyze the findings in the broad sense.
3. The results of the Keirsey Temperament Sorter were placed on a continuum for each variable scale: Extroversion-Introversion, Intuition-Sensing, Feeling-Thinking, and Perception-Judgment.
4. To test the hypotheses relating to whether or not a relationship existed between personality types and extent of participation in educational activities, the results of each of the variable scales from the KTS were correlated with the results of the ALAS--the educational participation score--using the Pearson correlation coefficient.
5. To further test the relationship between personality types and extent of participation in educational activities, the four personality variables were dichotomized into high and low groups and a t-test was run on the mean scores of the high and low groups.

The system of computer programming used was the Statistical Package for the Social Sciences (SPSS).

Limitations of the Study

1. The study group was obtained from Senior Aides or program participants at the Wilder Senior Center, St. Paul, Minnesota. It is recognized that this volunteer sample limits the generalizability of the results. Therefore it is not possible to estimate the representativeness of the findings to the entire older adult population.

2. The sample's participation in the study was voluntary in nature. No attempt was made to determine whether subjects who refused to participate in the data collection phase were different than those who cooperated.

3. Because of the wide range in age and in educational background of the subjects, they were allowed to respond to the questionnaires either on a self-administered basis, on a one-to-one leader-administered basis, or in small leader-administered groups. This variation in the administration may have contributed to variability in the responses.

4. Two social research probabilities when working with older adult subjects, using a recollective instrument, are that the subjects may have been unable to accurately recall information about activities they may have been involved in during the past year, and that they may have been unwilling to reveal information to an unfamiliar researcher.

It is necessary that all of these limitations be taken into consideration by the reader of this paper and by those who may use its data and findings for educational programming.

Chapter IV

PRESENTATION AND ANALYSIS OF DATA

The purpose of this study was to secure a better understanding of older adults and factors that are associated with their participation in education. More specifically, this study was designed to determine if there is a relationship between selected personality types and the extent of participation in educational activities of older adults.

The Keirsey Temperament Sorter (KTS) and the Abbreviated Leisure Activities Survey (ALAS) were administered during May of 1981. Results from these questionnaires were tabulated by the University of Minnesota Computer Services. Strength of relationship between personality types and extent of participation was determined by running Pearson correlation coefficients and t-tests. The .05 level of significance was chosen to determine if the relationships between personality type and participation in education by older adults were statistically significant.

The data generated in this investigation are presented in this chapter. The data related to the characteristics of the sample are presented first, followed by an examination of the frequency distributions for each instrument. The findings regarding the relationship between personality types and the participation of older adults in education are then presented and discussed.

Characteristics of the Sample

A total of sixty older adults participated in this study. Personal data were sought from the respondents to provide information which would be useful in interpreting the results. Table 2 shows the distribution of the responses for five sociodemographic characteristics of the respondents; age, marital status, sex, educational background, and attendance frequency at the Wilder Senior Center.

Age

The age distribution of the respondents, as presented in Table 2, shows that the largest number (N=34, 65 percent) were in the 65-74-year age bracket, the "young-old". The Senior Center membership statistics report that the median of the members was 71 years and eight months. See Appendix F for Wilder Senior Center membership statistics for 1979-1980.

One might speculate on the reason why 65 percent of the respondents were 65-74 years old, in comparison to only 29 percent being 75 years and older. Borg and Gall (1979) compiled a listing of characteristics of volunteer subjects. They state that "volunteers tend to be younger than non-volunteers" (Borg & Gall, 1979, 190). This seems to hold true in this study.

Marital Status

Nearly half (40 percent) of the respondents were widowed, followed by those still married (35 percent). Only 12 percent were divorced and another 12 percent were single.

Table 2
Sociodemographic Characteristics of Respondents
N = 52

Variable	Number	Percent
A. Age		
64 years or less	3	5.8
65 - 74 years	34	65.4
75 years and above	15	28.8
	<u>52</u>	<u>100.0</u>
B. Marital Status		
Single	6	11.5
Married	18	34.6
Widowed	21	40.4
Divorced	6	11.5
Separated	1	1.9
	<u>52</u>	<u>100.0</u>
C. Sex		
Female	42	80.8
Male	9	17.3
No response	1	1.9
	<u>52</u>	<u>100.0</u>
D. Education		
Less than 8th grade	2	3.8
8th to 11th grade	16	30.8
High school graduate	18	34.6
Some college or technical/ vocational school	12	23.1
College graduate	2	3.8
Graduate training	1	1.9
Other	1	1.9
	<u>52</u>	<u>100.0</u>
E. Attendance frequency at the Senior Center		
Not at all	1	1.9
Once a month	5	9.6
2-3 times a month	6	11.5
Once a week	16	30.8
More often than once a week	23	44.2
No response	1	1.9
	<u>52</u>	<u>100.0</u>

This compares with the Senior Center data in which 43 percent were widowed, followed by 40 percent still married.

Sex

Over three-fourths (81 percent) of the respondents were female, with the remaining 17 percent being male. This compares with today's male-female differential of 69 (41 percent) males to every 100 females over 65 years of age (Harris, 1978, 12). The Senior Center membership is made up of 26 percent males and 73 percent females.

Education

With regard to the highest level of school completed, about one-third of the respondents indicated that they were high school graduates (35 percent) while another one-third (31 percent) indicated 8th to 11th grade. Some college or technical school had been completed by 23 percent of the subjects; almost 6 percent of the respondents were college graduates and another 4 percent had completed eight years of school or less.

When comparing the educational background data collected to the Wilder Senior Center membership statistics, the respondents for this study had achieved a higher level of education than the average member of the Center. The majority of Senior Center members have about an 8th grade education (Appendix F). This discrepancy may be partially explained by Borg & Gall who stated that "Volunteer subjects tend to be better educated than non-volunteers" (Borg & Gall, 1979, 189).

Attendance Frequency at the Senior Center

Almost half (44 percent) of the respondents attended the Senior Center more often than once a week, with 31 percent indicating that they are at the Center once a week. About 21 percent came to the Center 2 or 3 times a month or once a month. Thus, members who frequent the Center once a week or more often were more likely to volunteer to be in the study.

Personality Type

The personality type preferences were obtained by using the Keirsey Temperament Sorter (Keirsey & Bates, 1978). The purpose of the questionnaire was to reveal personality type. This instrument included 70 forced-choice items which determined the preference for the following variables: Extroversion-Introversion, Intuition-Sensing, Feeling-Thinking, and Perception-Judgment.

For the purpose of this chapter and for the data analysis, each of the four personality variables was coded, analyzed and discussed as a continuum from high to low: (1) high extroversion-low extroversion (with low extroversion being labeled introversion in the literature); (2) high intuition-low intuition (with low intuition labeled sensing in the literature); (3) high feeling-low feeling (with low feeling labeled thinking in the literature); and (4) high perception-low perception (with low perception labeled judgment in the literature).

The items on the KTS were designed by Keirsey and

Bates to be scored as high/low (i.e., extroversion/introversion) for each preference within the "type" variable. A person's variable scores are determined on the instrument for both high and low for each variable. In this analysis, the four variable scores for each subject were based on the number of "high" (i.e., extroversion) responses given and on the number of "low" (i.e., introversion) responses given, etc. A subject's score could range from 1-11 on the extroversion variable, and 1-21 on the other three variables.

Keirsey explains that an "X" in your type is a "combination of type." An X can show up on any of the four variables when a subject selects an equal number of items from the high and low ends of the scale (Keirsey & Bates, 1978, 13). For scoring information, see KTS scoring sheet in Appendix A.

Analysis of Personality Type Scores

Range and Distribution

As shown in Table 3, the respondent's scores for each of the variables were coded on a continuum. All of the response combinations possible for each variable were determined and listed in chronological order. A code number was then given to each possible combination.

The frequency distributions for two of the variables tended to be fairly normal, with the perception variable being skewed to the right, indicating that subjects were low in perception (and conversely high in judgment). The extroversion variable was skewed to the left. The subjects

Table 3
Distribution of Personality Type Scores
N = 52

Variable	Response Combinations	Code	Number of Persons	Percent
(1) Extroversion	10/0	1	1	1.9
	9/1	2	14	26.9
	8/2	3	9	17.3
	7/3	4	11	21.2
	6/4	5	7	13.5
	5/5 = "X"	6	2	3.8
	4/6	7	5	9.6
	3/7	8	1	1.9
	2/8	9	2	3.8
	1/9	10	0	0
	0/10	11	0	0
			52	99.9
	Mean = 4.00			
	Mode = 2.00			
	Range = 1 - 9			
	Std. Dev. = 1.98			
	Median = 3.68			
(2) Intuition	0/20	1	0	0
	1/19	2	0	0
	2/18	3	0	0
	3/17	4	0	0
	4/16	5	2	3.8
	5/15	6	1	1.9
	6/14	7	4	7.7
	7/13	8	2	3.8
	8/12	9	1	1.9
	9/11	10	3	5.8
	10/10 = "X"	11	7	13.5
	11/ 9	12	5	9.6
	12/ 8	13	5	9.6
	13/ 7	14	5	9.6
	14/ 6	15	4	7.7
	15/ 5	16	3	5.8
	16/ 4	17	4	7.7
	17/ 3	18	1	1.9
	18/ 2	19	2	3.8
	19/ 1	20	3	5.8
	20/ 0	21	0	0
			52	100.0

Table 3
(Continued)

Variable	Response Combinations	Code	Number of Persons	Percent
(3) Feeling	0/20	1	0	0
	1/19	2	0	0
	2/18	3	0	0
	3/17	4	1	1.9
	4/16	5	3	5.8
	5/15	6	3	5.8
	6/14	7	4	7.7
	7/13	8	5	9.6
	8/12	9	6	11.5
	9/11	10	6	11.5
	10/10 = "X"	11	5	9.6
	11/ 9	12	4	7.7
	12/ 8	13	4	5.8
	13/ 7	14	4	7.7
	14/ 6	15	4	7.7
	15/ 5	16	1	1.9
	16/ 4	17	3	5.8
	17/ 3	18	0	0
	18/ 2	19	0	0
	19/ 1	20	0	0
	20/ 0	21	0	0
			52	100.0
(4) Perception	0/20	1	0	0
	1/19	2	0	0
	2/18	3	0	0
	2/17	4	0	0
	4/16	5	1	1.9
	5/15	6	0	0
	6/14	7	0	0
	7/13	8	2	3.8
	8/12	9	1	1.9
	9/11	10	1	1.9
	10/10 = "X"	11	2	3.8
	11/ 9	12	3	5.8
	12/ 8	13	5	9.6
	13/ 7	14	7	13.5
	14/ 6	15	7	13.5
	15/ 5	16	7	13.5
	16/ 4	17	7	13.5
	17/ 3	18	4	7.7
	18/ 2	19	2	3.8
	19/ 1	20	3	5.8
	20/ 0	21	0	0
			52	100.0

were almost evenly divided between "high" and "low" on the intuition and feeling scales.

The distribution of scores for this study, and for a general adult population using the Myers-Briggs Type Indicator (Myers, 1980), are shown in Table 4. The percentage frequency distributions are similar for three of the variables. The older adult study had subjects who had an equal number of high and low responses for each variable (labeled X).

A difference between the two distributions is in regard to the perception variable. Only 10 percent of the subjects in the older adult study scored high whereas 87 percent were low on this variable. This compares with 50 percent on each found in the general adult population study.

In summary, the majority of subjects in this study scored high on the extroversion scale and low on the perception scale. The subjects were almost evenly divided between "high" and "low" on the feeling and intuition scales. In comparison with a national study of the adult population, the older adult sample was higher on extroversion, about the same on intuition and feeling, and lower on perception.

The difference between the two studies regarding the perception variable could be explained as the result of a biased sample. The perceptive types may be less likely to participate in organized activities. Myers contends that the perceptive "types" live according to the situation of the moment, are masterful in handling the unplanned, unexpected, and incidental, depend on their readiness for

Table 4

Comparative Percentage Distribution of the Four Variables
Using Two Personality Type Measurement Instruments

- (a) Myers (1980)
Myers-Briggs Type Indicator
General adult population.
N = over 15,000

Variable	% in Gen. Population	Variable	% in Gen. Population
1. High Extroversion	75%	Low Extroversion (Introversion)	25%
2. High Intuition	25%	Low Intuition (Sensation)	75%
3. High Feeling	50%	Low Feeling (Thinking)	50%
4. High Perception	50%	Low Perception (Judgment)	50%

- (b) Older Adult Participation Study
Keirsey Temperament Sorter
Volunteer sample of Older Adults
N = 52

Variable	% in Study	Variable	X *
1. High Extroversion	80.8%	Low Extroversion	15.3%
2. High Intuition	25.0%	Low Intuition	61.5%
3. High Feeling	53.8%	Low Feeling	36.6%
4. High Perception	9.5%	Low Perception	86.7%

* "X" indicates those respondents who had an equal number of
"high" responses and "low" responses for each variable.

anything and everything to bring them a constant flow of new experience, and like to keep decisions open as long as possible (Myers, 1980, 75).

The subjects were volunteers who were participating in a program at the Senior Center. Thus, it might be reasonable to assume that there would be a tendency for the Center to attract people who score low on perception (judgment) and who seek to be involved in planned, scheduled events, like the activities at the Senior Center. This contention is supported by Myers's description of the qualities in the judgment (low perception) "type". She stated that in the judgment function, there is a preference for the planned life. "Order is applied to one's activities, means, programs, and schedules. The judging "types" decide in advance what they intend to accomplish and they make careful and sometimes very long-range plans" (Myers, 1980, 71).

Another possible explanation is that people may have a tendency to increase in their preference for the judgment function as they age. Some characteristics of the judging type are: living according to plans; finding it difficult to set aside standards and customs; making a very definite choice among life's possibilities, but possibly not appreciating or utilizing unplanned, unexpected, and incidental happenings; desiring to have matters settled and decided as promptly as possible, so that what is going to happen can be planned and prepared for; and, thinking or feeling that he or she knows what other people ought to do about almost everything, and is not averse to telling them (Myers, 1980, 71).

Educational Participation

The extent of the respondent's educational participation was obtained by using the Abbreviated Leisure Activities Survey (Litchfield, 1968). This instrument included 50 leisure activities, with 21 of the items judged by a panel as educative. The purpose of the measurement instrument was masked to prevent bias regarding educational activities. A person's total educational participation score (EPS) could range from 0-355.

Analysis of Educational Participation Scores

Range and Distribution

As shown in Table 5, the mean score for the total educational participation of the respondents was 104.3 with scores ranging from 27-214. Fisher (1980) used the ALAS in her study of educational participation of farm wives in Minnesota. The mean of her scores ($N = 224$) was 97.67 with a range of 8-250. The majority of the sample had moderate involvement in educational activities with a small percentage having either extensive or limited involvement.

The distributions of educational participation scores for this study, for Fisher's study of farm wives (1980), and for Litchfield's study of a general population of adult learners using the original Leisure Activities Survey (1965) are shown in Figure 1. The distributions were similar, i.e., they tended to be normal, and somewhat skewed to the left.

The mean scores for the 21 educational items in the Abbreviated Leisure Activities Survey are presented in rank order in Table 6. For scoring information, see Appendix C.

Table 5

Distribution of Educational Participation Scores

N = 52

<u>Educational Participation Scores</u>	<u>Number of Persons</u>	<u>Percent</u>
0 - 20	0	0
21 - 40	6	12
41 - 60	4	8
61 - 80	8	15
81 - 100	7	13
101 - 120	7	13
121 - 140	8	15
141 - 160	5	10
161 - 180	3	6
181 - 200	2	4
201 - 220	2	4
Total	<u>52</u>	<u>100.0</u>

Mean = 104.3

Range = 27 - 214

St. Dev. = 48.

Median = 101.50

The range of the mean scores was .038 (low) to 3.038 (high) for the 21 items comprising total educational participation. Through analysis of these scores, observations were made about the types of educational participation. Through analysis of these scores, observations were made about the types of educational activities in which older adults participated. Educational activities on which the subjects in this study scored 2.00 and higher were listening to informative programs on radio and television, thinking about abstract questions, and meeting with groups to discuss or learn about things. They often were reading magazines, books and/or articles dealing with their trades, special interests, or on subjects they wanted to learn more about. They also appeared to be interested in reading about practical topics.

Educational activities with the lowest scores, i.e., 1.0 or less, included courses offered through correspondence, radio/television, and educational records. The respondents tended not to participate in reading technical or cultural magazines. They also indicated low participation in attending conferences or workshops.

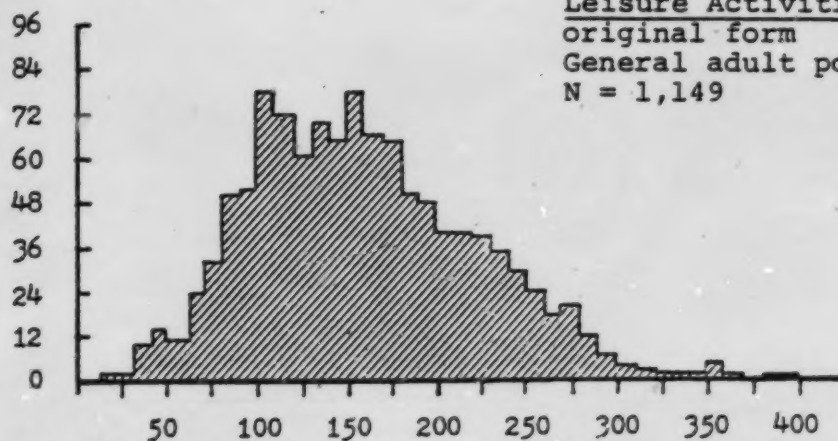
The mean scores for the 29 items not included in the educational participation score are presented in Appendix E in rank order.

Figure 1

Comparative Distribution of Educational
Participation Scores Using Two Forms of the Leisure
Activities Survey

Number of Persons

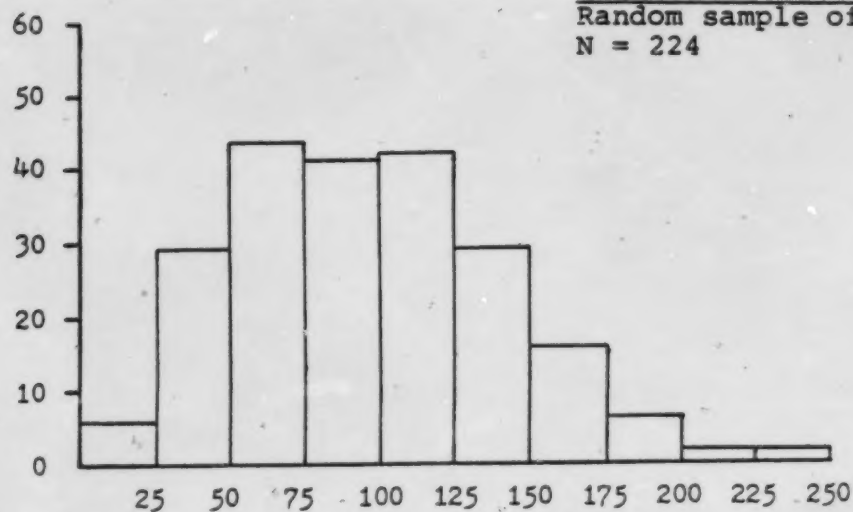
(a) Litchfield (1965: 79)
Leisure Activities Survey,
original form
General adult population.
N = 1,149



Educational Participation Scores

Number of Persons

(b) Farm Wives Survey (Fisher,
1980: 98) Abbreviated
Leisure Activities Survey,
Random sample of farm wives.
N = 224



Educational Participation Scores

Figure 1

(Continued)

Comparative Distribution of Educational
Participation Scores Using Two Forms of the Leisure
Activities Survey

Number of Persons

(c) Older Adult Survey
Abbreviated Leisure Activities
Survey, Volunteer sample of
older adults.
N = 52



Educational Participation Scores

Table 6

Mean Scores: Educational Items from
Abbreviated Leisure Activities Survey

N = 52

<u>Educational Items</u>	<u>Mean Score</u>	<u>Number: No Involvement</u>
1. Listened to an informational program on radio or watched an informational program on TV, such as a personal interview, consumer tips, or a discussion show	3.038	2
2. Thought about an abstract question such as what is truth? beauty? or the place of man in the scheme of things?	2.327	10
3. Read one or more magazines dealing with a special interest or hobby	2.288	13
4. Read a number of books on a subject I want to learn more about	2.250	21
5. Read a practical non-fiction book or article on a subject, such as gardening, sewing, improving my environment, or mechanics	2.250	17
6. Went to a meeting of a group organized to discuss or learn about things	2.135	21
7. Read a non-fiction book or article on a general subject, such as psychology, art, economics, history, biography, or science	1.981	20
8. Browsed in a bookstore or library	1.923	9
9. Consulted an encyclopedia, atlas, world almanac, or other reference source	1.904	16
10. Read a book or article dealing with my trade, profession, or business	1.865	29
11. Read a current events periodical such as Time, Newsweek, or <u>U.S. News and World Report</u>	1.635	22
12. Went for a trip especially to see some historical or other important landmark	1.327	17
13. Took a course or workshop given by some community organization like the "Y", Red Cross, library or a senior center	1.308	15
14. Saw an art film on TV, at a museum or theatre	1.288	29
15. Went to a meeting of a religious group	1.192	27
16. Went to a conference, an institute, or a workshop	.808	36

Table 6
(Continued)

Mean Scores: Educational Items from
Abbreviated Leisure Activities Survey

17.	Read a technical, professional, trade, or farm magazine	.788	36
18.	Read a literary or cultural magazine such as <u>The Saturday Review</u> , <u>Harpers</u> , or <u>Atlantic Monthly</u>	.596	38
19.	Listened to a teaching record or tape, such as one which teaches a foreign language	.423	45
20.	Followed a course or class offered on TV or radio	.288	45
21.	Took a correspondence or home study course	.038	50

Relationship Between Personality Type
and Educational Participation

Computer programs from the Statistical Package for the Social Sciences (SPSS) were used to analyze the data (Nie, Hull, Jenkins, Steinbrenner, Bent, 1975). Measures of central tendency were computed for all the items to summarize the data.

Treatment of the Data

Table 7 provides the data from the correlation calculations and significance levels for the four personality variables and the extent of participation in educational activities.

Table 7
Pearson Correlation Coefficients
N = 52

VARIABLE	r	p
Extroversion	-.203	p = .07
Intuition	-.281	p = .02
Feeling	.056	p = .34
Perception	.093	p = .25

The first null hypothesis was: There is no significant relationship between the degree of extroversion scores and extent of participation in educational activities of older adults. As noted from Table 7, the correlation between

extroversion and extent of participation was .023, which was significant at the .07 level of confidence. This provided evidence that a small, negative correlation exists between extroversion and extent of educational participation, which approached significance.

However, the statistic did not meet the pre-established .05 level of confidence. Therefore on the basis of these data, null hypothesis one which stated that there would be no significant relationship between extroversion and educational participation was accepted.

Null hypothesis number two was: There is no significant relationship between the degree of intuition and extent of participation in educational activities of older adults.

Table 7 indicated that the Pearson correlation coefficient, relative to the intuition variable and educational participation, was $-.281$. The obtained .02 level of confidence indicates that there was a significant, but small relationship at the .05 level of established confidence. Subjects scoring higher on intuition also scored higher on educational participation. Although this was a low correlation, the findings provide support that the more intuitive older adults participate more in educational activities than the less intuitive (sensing "types").

On the basis of these data, null hypothesis number two which stated that there is no significant relationship between the intuition variable and educational participation was not accepted.

Null hypothesis number three was: There is no significant relationship between the degree of feeling scores and extent of participation in educational activities of older adults. As Table 7 reveals, the results of the Pearson correlation coefficient between the feeling variable and educational participation was .056 which was significant at the .34 level of confidence. This indicated that there was not a significant relationship at the established .05 level of confidence. Therefore, null hypothesis three, which stated that there is no significant relationship between the feeling variable and educational participation was accepted.

Finally, null hypothesis number four was: There is no significant relationship between the degree of perception scores and extent of participation in educational activities of older adults. The results of the Pearson correlation test between the perception variable and educational participation was .093 which was significant at the .25 level of confidence. This indicated that there was not a significant relationship between the perception variable and educational participation of older adults. Therefore, null hypothesis four was accepted.

In summarizing the correlation analysis between four measures of personality "type" with a measure of educational participation, there was one significant relationship found for the intuitive variable. The extroversion variable was approaching significance. There was no significant relationship indicated for the other two variables, feeling and perception. Therefore, the results of this study indicate that

there were small, but statistically significant relationships between certain personality types--specifically intuition ($p = <.02$) and extroversion ($p = <.07$) types--of older adults and their extent of participation in continued learning.

T-test Analysis

In an attempt to obtain a more thorough analysis of the data, t-tests were also used. Following observations of the frequency distributions shown in Table 3, data were grouped by adopting the median as the division point for each of the four personality variables. For example, on the extroversion variable, high extroversion was defined as scores 1-3, and low extroversion (i.e., introversion) was defined as scores 4-11. Thus, the variable was then thought of as "high extroversion" and "low extroversion". The advantage of this division method was that all of the data could be included in the analysis. Table 8 provides the division structure for the personality variables.

Table 8

Scores Used for Dividing Variables
in High and Low Groups

N = 52

Variable	Median	Scores in High Group	Scores in Low Group
Extroversion	3.68	1-3	4-11
Intuition	12.7	1-12	13-21
Feeling	10.16	1-10	11-21
Perception	15.07	1-15	16-21

Table 9 provides the data from the t-test calculations and significance levels for the four personality variables and the extent of participation in educational activities.

Table 9

Results of t-tests using Mean Educational Participation Scores for High and Low Groups on Four Personality Variables

N = 52

Variable	EPS* Mean	Std. Dev.	t-value	deg. of freedom	p value
Extroversion-Introversion					
Group 1 = High Extroversion	119.54	43.51	2.15	50	p = .03
Group 2 = Low Extroversion	91.28	50.01			
Intuition-Sensing					
Group 1 = High Intuition	111.80	46.42	1.06	50	p = .29
Group 2 = Low Intuition	97.40	50.76			
Feeling-Thinking					
Group 1 = High Feeling	104.78	42.85	.07	50	p = .94
Group 2 = Low Feeling	103.79	55.88			
Perception-Judgment					
Group 1 = High Perception	107.51	45.77	.53	50	p = .60
Group 2 = Low Perception	100.30	53.12			

*EPS Educational Participation Score

While the results of the t-tests differed somewhat from the correlational data, in general, the t-test data supported the previous correlation findings.

In this test, the educational participation scores differed significantly between older adults who were high and who were low on extroversion. The mean for group one, the high-extroversion subjects, was 119.54 with a standard deviation of 43.51. The mean for the low-extroversion group was 91.28 with a standard deviation of 50.01, resulting in a difference between the means of 18.26. The calculated t-value was 2.15 on 50 degrees of freedom. The associated probability of this t calculation was .03 which was significant at the .05 level of confidence.

The above t-test results indicate that there was a relationship between degree of extroversion and extent of participation in educational activities. The t-test statistic with a $p = <.03$ is consistent with the Pearson correlation probability of $p = <.07$ for the extroversion variable.

Personality variable number two, intuition, focuses on how people gather information. As indicated in Table 9, the mean educational participation score for the high-intuition group was 111.80 as compared to the mean of 97.40 for the low-intuition group, resulting in a difference of 14.40, with standard deviations of 56.52 and 50.76, respectively.

The resulting t-value of 1.06 was significant at the .29 probability level. This finding indicated that there was no significant relationship between the intuition variable and extent of educational participation.

The t-test for intuition differed from the correlational analysis which obtained a significant positive relationship with extent of participation ($p = <.02$). The difference between the two findings can be explained by the shape of the distribution in the correlation, not in strength of the relationship. As shown in Figure 2, the correlation distribution is oblong, starting from high in the upper left, curving down and to the right. When the distribution was split at the median for the t-test, the data in each group were influenced by the extremes in the upper left and the lower right. This resulted in a larger difference in the means and standard deviations, in calculating the higher probability value, and in indicating no relationship.

Table 9 indicates the t-test calculations for variable number three, feeling. The mean educational participation score for the high-feeling subjects in group one was 104.78, compared to the 103.79 of the low-feeling group, which resulted in the small difference between the means of .99. The standard deviations were 42.85 for group one and 55.88 for group two. The calculated t-value of .07 with a probability of .94 was not significant at the .05 level of confidence.

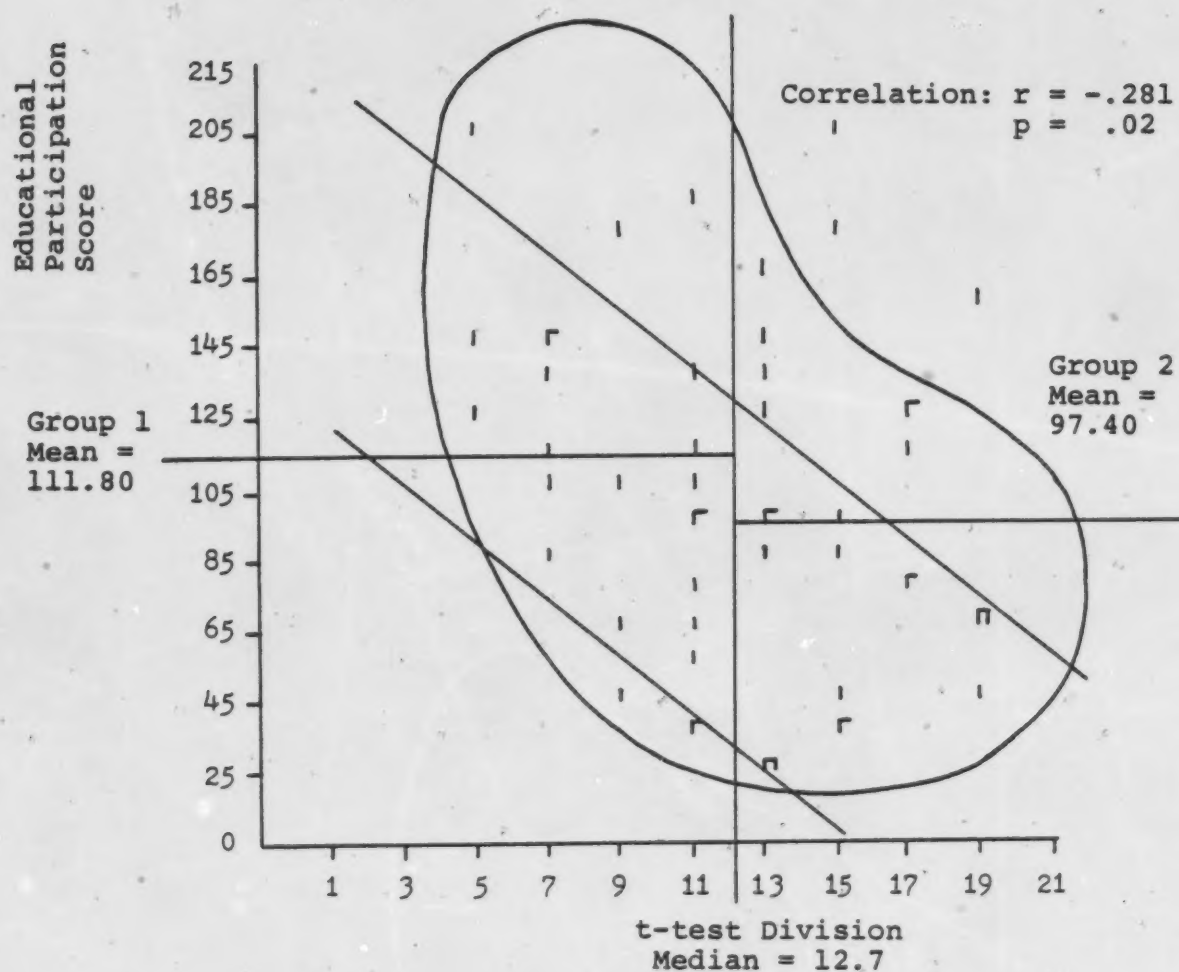
The t-test for the feeling variable supported the correlational analysis which found no significant difference between the feeling "type" and participation in education of older adults.

The last variable was a preference for perception. The mean score for group one, high perception, was 107.51, compared to 100.30 for the low-perception group. The resulting

Figure 2

Illustration of
the Correlation Distribution and t-test Division
for the Intuitive Variable

N = 52



Personality Variable: Intuition-Sensing

difference of the means was 7.21. The standard deviations were 45.77 for group one and 53.12 for group two. The obtained low t-value of .53 was not significant at a .60 level of confidence.

The t-test data for the perception variable was consistent with the obtained correlational coefficient. Both tests indicated that there was not a significant relationship between the perception "type" and participation in education.

Summary

The data collected from the Abbreviated Leisure Activities Survey indicated that the mean educational participation score for older adults was 104.3 (maximum score was 355) with scores ranging from 27-214. The older adult subjects were all involved in learning activities, at least to some degree, indicating the need for continued educational programming for older adults. Many of the respondents were potential participants in such programs.

Analysis of the Keirsey Temperament Sorter results indicated that the majority of subjects in this study scored high on the extroversion scale and low in the perception scale. The subjects were almost evenly distributed between "high" and "low" on the feeling and intuition scales. In comparison with a national study of the adult population, the older adult sample was higher on extroversion, about the same on intuition and feeling, and lower on perception.

These data provided information on certain personality variables and participation in education by older adults, as

well as an indication of the types of activities in which older persons were involved. The more extroverted and intuitive older adult was found to participate more in educational activities than persons scoring low on these variables. There was no significant relationship with the feeling or perception "types".

Chapter V

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

A gap exists in our knowledge about the educational participation of older adults. While a great deal of information is available about educational activities and participation patterns of adults, few investigators have dealt with factors influencing the participation of older adults in educational activities.

The purpose of this study was to provide additional information for understanding the participation of older adults in education. The research question was: Does a relationship exist between personality type and the extent of participation in education of older adults? The theoretical framework used in this study is the typology of Carl Jung (1923), and applied through the work of Isabel Briggs Myers (1980). Their work offers a fresh perspective on people's patterns of dealing with their world; specifically, the "personality type" gives insight into the way people gather information and the way they make decisions.

Subjects included in this study consisted of a volunteer sample of 60 older adults participating in Wilder Foundation programs in St. Paul, Minnesota. A limitation of the study design was lack of representation sampling from the older adult population. The results of the investigation cannot be generalized with much certainty beyond the persons here described.

The 60 subjects were administered two questionnaires:

- (1) the Keirsey Temperament Sorter to reveal personality

type, and (2) the Abbreviated Leisure Activities Survey to measure total educational participation.

The analysis of the data collected was accomplished primarily by means of the Pearson correlation tests. To further test the significance of the relationship between personality type and participation in education, t-tests were run on the four personality variables. Results were considered statistically significant at the .05 level of confidence.

For the data analysis, the four personality variables were coded and analyzed as a continuum from high to low (i.e., high extroversion-low extroversion, etc.). For the purpose of this chapter, the personality variables will be discussed in this form and as dichotomies (i.e., extroversion-introversion, intuition-sensing, feeling-thinking, and perception-judgment) as they were defined in the theory.

Summary of Findings

Description of the Sample

Information obtained from the personal background of the respondents indicated that most (65 percent) of them 65 years of age or older, were either married or widowed women with educational backgrounds ranging from 8th grade to some college or technical/vocational school. Almost half of the subjects frequented the Wilder Senior Center more often than once a week.

Personality Type

The data collected from the Keirsey Temperament Sorter indicated that the majority of subjects in this study scored high on the extroversion scale and low on the perception

scale. The subjects were almost evenly distributed between "high" and "low" on the feeling and intuition scales.

Results from this study tended to be comparable to Myers' (1980) research studies of the general adult population regarding percentage distributions for three of the different personality types. The subjects differed from Myers' adult population with regard to the perception-judgment variable where 9.5 percent of the older adults were "perceiving types" compared to 50 percent in the Myers' study.

Educational Participation

The data collected from the Abbreviated Leisure Activities Survey approximated a normal distribution. The mean educational participation score for older adults was 104.32 (maximum score was 355). Scores ranged from 27-214. All subjects were involved in educational activities to some degree.

When compared to Fisher's Farm Wives study (1980), the mean educational participation score was 97.67; the range of scores was 8-250.

The older adults appeared to be more involved in learning activities such as informative programs on TV or radio, discussion meetings with others, and through use of printed materials than in organized group programs.

Personality Type and Educational Participation

The major goal of this research was to determine if there is a relationship between certain personality types and extent of participation of older adults in educational

activities. Four null hypotheses were formulated for testing.

Null Hypothesis I: There is no significant relationship between the degree of extroversion and extent of participation in educational activities of older adults. Analysis of the Pearson correlation ($r = -.203$) revealed that extroversion was positively correlated with participation in educational participation at a level approaching significance ($p = < .07$). This indicated that persons who were more extroverted tended to participate more in educational activities.

From a t-test, there was a significant difference between extroversion "types" and introversion "types" ($t = 2.15$; $p = < .03$) which supported the Pearson correlation above. The t-test indicated that there was a significant relationship between degree of extroversion and extent of participation in educational activities.

Therefore, on the basis of these data, the null hypothesis was not accepted. Thus, the more extroverted person--one whose main interests are in the outer world of people and things--was more likely to participate to a greater extent in educational activities than the more introverted person whose main interests are in the inner world, who likes to be alone, and is likely to have limited relationships.

Null Hypothesis II: There is no significant relationship between the degree of intuition and extent of participation in educational activities of older adults. Analysis of the correlational data revealed that there was a significant relationship ($r = -.281$; $p = < .02$) between the intuitive

"type" and extent of participation in educational activities of older adults. This finding indicated that subjects who were more intuitive--persons who preferred to gather information through the intuition which shows meanings, relationships, and possibilities--tended to participate to a greater extent in educational activities than did the sensing "types".

The t-test analysis on mean scores of the intuitive and sensing "types" found no significant difference ($t = 1.06$; $p = < .29$) between the two types in terms of participation in educational activities. The difference between the correlation and t-test data can be explained by the shape of the distribution.

When the intuition-sensing variable was split at the median for the t-test, the data in each group were influenced by the extreme scores, resulting in a larger difference in the means and standard deviations within the groups than between the two groups.

Therefore, on the basis of these data, the null hypothesis was not accepted. It appears that the more intuitive personality type tends to participate to a greater extent in education than the sensing type.

Null Hypothesis III: There is no significant relationship between the degree of feeling scores and extent of participation in educational activities of older adults. Analysis of the data revealed no significant relationship between the feeling scores of older adults and their extent of participation in educational activities ($r = .056$; $p = < .34$).

The t-test also revealed no significant difference between the feeling and thinking types in their educational participation scores ($t = .07$; $p = <.94$). The null hypothesis was accepted.

Null Hypothesis IV: There is no significant relationship between the degree of perception scores and extent of participation in educational activities of older adults. Analysis of the data revealed no significant relationship between the perception scores of older adults and their extent of participation in educational activities ($r = .093$; $p = <.25$). The t-test also revealed no significant difference between the perception and judgment types in their educational participation scores ($t = .53$; $p = <.60$). The null hypothesis was accepted.

In summary, all older adult subjects were involved in learning activities to some degree. This finding supports Litchfield's statement that "There no longer appears to be any validity in the belief...that there are participants and nonparticipants in adult education. All men and women partake of adult education to some extent" (Litchfield, 1965, 19).

As this study did not involve a random sample from the older adult population, it is not possible to estimate the representativeness of the findings to the entire older adult population. However, it does appear, at least for these 52 respondents, that there is a relationship between certain personality types and extent of participation in educational activities by older adults, and that there may be a pattern

of the kinds of educational activities in which older adults are involved.

Implications of the Study

Implications for Program Development

The author believes an understanding of personality type theory is potentially valuable in designing education programs and appealing to the motivations of older adults to participate in them.

Adult education programs will assume more importance than ever before as present changes in our society continue to provide an increased amount of leisure time available to people. Educational activities will have to be directed toward all personality types to provide a balance of leisure activities which appeal to all different "types" of persons.

For example, there is an indication that extroverted elderly (80 percent in this study) have a tendency to participate more in educational activities. If one operational goal of an education program is to increase participation of older adults, the implication for planning is to design education experiences which appeal to both the extroverted and introverted types of people. The extroverted type is one who is more interested in the outer world--their environment; they are more sociable, and feel comfortable in large groups, etc. To attract the introvert, on the other hand, an educator might make personal contacts, spend time drawing the person out, and not expect him or her to be very active in large, social gatherings. Small group activities, or individual learning projects would appeal to an introverted type.

Twenty-five percent of the older adults in this study were intuitives who were higher participants in education. To increase their participation in educational programs, educators need to design activities which appeal to the intuitive's inquiring mind, their interest in changing things, their natural inclination to be creative and thrive on ideas. Educational experiences might be planned incorporating these traits; activities such as study groups or discussion groups on topics like current and future events, philosophy, or religion, etc. are good for intuitive types. Because intuitive types are often very creative idea people, it is important to recruit them to serve on advisory councils.

To try to involve more sensing types, who constituted about 61 percent of the older adults in this study, programs need to focus on the more practical, hands-on learning experiences. The experiential learning model, where the learner is actually physically involved in learning a skill or discovering what is to be learned, would be an effective approach with the more sensing types.

Implications for Teachers

For the teacher of older adults and the program administrator as well, knowledge about participation patterns in education programs and personality types might be meaningfully related to help improve the quality of the learning experiences, develop a balanced curriculum, and maintain student interest and attendance. Such knowledge might also be useful for counseling and guidance purposes, as well. An

understanding of people's type could be very helpful in counseling them in choosing post-retirement occupations which would give them an opportunity to use their preferred processes. For example, sensing types are drawn to occupations that let them deal with a constant stream of facts, whereas intuitives like situations in which they look at possibilities, etc.

Finally, an understanding of personality type theory might be useful in working with people, not only in assessing needs and interests more accurately, but in being attuned to the strengths and differences of other staff and older adults. An acceptance of others as they are and not attempting to change the way they look at things and the way they make decisions can enable an acceptance of these unique differences to emerge.

Recommendations

As a results of this study on selected personality variables and their relationship to the participation of older adults in education, the following recommendations are made:

1. Planners of educational programs should be aware that extroverted and intuitive "types" of older adults tended to participate more in continued learning than other types, therefore activities which appeal to these types should be included in programs.

2. Because this study indicated that introverts and sensing "types" tended to participate less in educational activities, educators should give special attention to designing learning experiences for all "types" of people.

3. Since the data from this study indicate that all older adults are involved in educational activities to some degree, adult educators should be aware of this clientele group and design education programs with them.

4. Adult educators need to engage in communication with older adults in order to obtain a better understanding of the participation patterns and factors influencing their involvement in continued learning.

5. Because the sample of older adults in this study lacked representative sampling from the older adult population, further research is needed in order to generalize the results with more certainty.

6. An empirically derived personality type profile of older adults who participate in education was an outcome of this study. It is recommended that this information provide a basis from which to test further the characteristics of participating older adults and factors associated with their participation in education.

7. Similar studies should be directed toward determining the relationship between the personality type of older adults and types of learning experiences.

8. It is recommended that better means for facilitating older adults' participation in continued learning be discovered and used.

Conclusion

This paper presented data to enhance our offering of educational programs for older adults. Knowledge about

factors influencing their participation in educational activities was desired. The study provided information on selected personality types and their relationship to participation in continued learning by older adults, as well as the kinds of learning in which older adults are engaged. It is recognized, however, that any single study is unable to provide sufficient evidence about the significant relationship between personality type and participation; further research is needed.

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APPENDIX A

GETTING TO KNOW YOU !

HELLO. PLEASE ANSWER ALL THE QUESTIONS AS THE LEADER READS THEM.

CIRCLE EITHER THE A OR B RESPONSE.

THERE ARE NO RIGHT OR WRONG ANSWERS.

WE ARE ALL BOTH — BUT WHICH ONE DO YOU PREFER? WHICH ANSWER IS MOST LIKE YOU?

IF YOU DO NOT UNDERSTAND THE QUESTION, PLEASE ASK THE LEADER.

1. AT A PARTY DO YOU
 - A. INTERACT WITH MANY, INCLUDING STRANGERS
 - B. INTERACT WITH A FEW, KNOWN TO YOU
2. ARE YOU MORE
 - A. REALISTIC THAN SPECULATIVE
 - B. SPECULATIVE THAN REALISTIC
3. IS IT WORSE TO
 - A. HAVE YOUR "HEAD IN THE CLOUDS"
 - B. BE "IN A RUT"
4. ARE YOU MORE IMPRESSED BY
 - A. PRINCIPALS
 - B. EMOTIONS
5. ARE YOU MORE DRAWN TOWARD THE
 - A. CONVINCING
 - B. TOUCHING
6. DO YOU PREFER TO WORK
 - A. TO DEADLINES
 - B. JUST "WHENEVER"
7. DO YOU TEND TO CHOOSE
 - A. RATHER CAREFULLY
 - B. SOMEWHAT IMPULSIVELY
8. AT PARTIES DO YOU
 - A. STAY LATE, WITH INCREASING ENERGY
 - B. LEAVE EARLY, WITH DECREASED ENERGY
9. ARE YOU MORE ATTRACTED TO
 - A. SENSIBLE PEOPLE
 - B. IMAGINATIVE PEOPLE
10. ARE YOU MORE INTERESTED IN
 - A. WHAT IS ACTUAL
 - B. WHAT IS POSSIBLE

11. IN JUDGING OTHERS ARE YOU MORE SWAYED BY
 A. LAWS THAN CIRCUMSTANCES B. CIRCUMSTANCES THAN LAWS
12. IN APPROACHING OTHERS IS YOUR INCLINATION TO BE SOMEWHAT
 A. OBJECTIVE B. PERSONAL
13. ARE YOU MORE
 A. PUNCTUAL B. LEISURELY
14. DOES IT BOTHER YOU MORE HAVING THINGS
 A. INCOMPLETE B. COMPLETED
15. IN YOUR SOCIAL GROUPS DO YOU
 A. KEEP ABREAST OF OTHER'S HAPPENINGS
 B. GET BEHIND ON THE NEWS
16. IN DOING ORDINARY THINGS ARE YOU MORE LIKELY TO
 A. DO IT THE USUAL WAY
 B. DO IT YOUR OWN WAY
17. WRITERS SHOULD
 A. "SAY WHAT THEY MEAN AND MEAN WHAT THEY SAY"
 B. EXPRESS THINGS MORE BY USE OF ANALOGY
18. WHICH APPEALS TO YOU MORE
 A. CONSISTENCY OF THOUGHT
 B. HARMONIOUS HUMAN RELATIONSHIPS
19. ARE YOU MORE COMFORTABLE IN MAKING
 A. LOGICAL JUDGEMENTS B. VALUE JUDGEMENTS
20. DO YOU WANT THINGS
 A. SETTLED AND DECIDED B. UNSETTLED AND UNDECIDED
21. WOULD YOU SAY YOU ARE MORE
 A. SERIOUS AND DETERMINED B. EASY-GOING

22. IN PHONING, DO YOU
 - A. RARELY QUESTION THAT IT WILL ALL BE SAID
 - B. REHEARSE WHAT YOU'LL SAY
23. FACTS
 - A. "SPEAK FOR THEMSELVES"
 - B. ILLUSTRATE PRINCIPLES
24. ARE VISIONARIES
 - A. SOMEWHAT ANNOYING
 - B. RATHER FASCINATING
25. ARE YOU MORE OFTEN
 - A. A COOL-HEADED PERSON
 - B. A WARM-HEARTED PERSON
26. IS IT WORSE TO BE
 - A. UNJUST
 - B. MERCILESS
27. SHOULD ONE USUSLLY LET EVENTS OCCUR
 - A. BY CAREFUL SELLECTION AND CHOICE
 - B. RANDOMLY AND BY CHANCE
28. DO YOU FEEL BETTER ABOUT
 - A. HAVING PURCHASED
 - B. HAVING THE OPTION TO BUY
29. IN COMPANY DO YOU
 - A. INITIATE CONVERSATION
 - B. WAIT TO BE APPROACHED
30. COMMON SENSE IS
 - A. RARELY QUESTIONABLE
 - B. FREQUENTLY QUESTIONABLE
31. CHILDREN OFTEN DO NOT
 - A. MAKE THEMSELVES USEFUL ENOUGH
 - B. EXERCISE THEIR FANTASY ENOUGH
32. IN MAKING DECISIONS DO YOU FEEL MORE COMFORTABLE WITH
 - A. STANDARDS
 - B. FEELINGS

33. ARE YOU MORE
A. FIRM THAN GENTLE B. GENTLE THAN FIRM
34. WHICH IS MORE ADMIRABLE:
A. THE ABILITY TO ORGANIZE AND BE METHODICAL
B. THE ABILITY TO ADAPT AND MAKE DO
35. DO YOU PUT MORE VALUE ON THE
A. DEFINITE B. OPEN-ENDED
36. DOES NEW AND NON-ROUTINE INTERACTION WITH OTHERS
A. STIMULATE AND ENERGIZE YOU
B. TAX YOUR RESERVES
37. ARE YOU FREQUENTLY
A. A PRACTICAL SORT OF PERSON
B. A FANCIFUL SORT OF PERSON
38. ARE YOU MORE LIKELY TO
A. SEE HOW OTHERS ARE USEFUL
B. SEE HOW OTHERS SEE
39. WHICH IS MORE SATISFYING:
A. TO DISCUSS AN ISSUE THOROUGHLY
B. TO ARRIVE AT AGREEMENT ON AN ISSUE
40. WHICH RULES YOU MORE:
A. YOUR HEAD B. YOUR HEART
41. ARE YOU MORE COMFORTABLE WITH WORK THAT IS
A. CONTRACTED B. DONE ON A CASUAL BASIS
42. DO YOU TEND TO LOOK FOR
A. THE ORDERLY B. WHATEVER TURNS UP
43. DO YOU PREFER
A. MANY FRIENDS WITH BRIEF CONTACT
B. A FEW FRIENDS WITH MORE LENGTHY CONTACT

44. DO YOU GO MORE BY
A. FACTS B. PRINCIPLES
45. ARE YOU MORE INTERESTED IN
A. PRODUCTION AND DISTRIBUTION
B. DESIGN AND RESEARCH
46. WHICH IS MORE OF A COMPLIMENT:
A. "THERE IS A VERY LOGICAL PERSON"
B. "THERE IS A VERY SENTIMENTAL PERSON"
47. DO YOU VALUE IN YOURSELF MORE THAT YOU ARE
A. UNWAVERING B. DEVOTED
48. DO YOU MORE OFTEN PREFER THE
A. FINAL AND UNALTERABLE STATEMENT
B. TENTATIVE AND PRELIMINARY STATEMENT
49. ARE YOU MORE COMFORTABLE
A. AFTER A DECISION
B. BEFORE A DECISION
50. DO YOU
A. SPEAK EASILY AND AT LENGTH WITH STRANGERS
B. FIND LITTLE TO SAY TO STRANGERS
51. ARE YOU MORE LIKELY TO TRUST YOUR
A. EXPERIENCE B. HUNCH
52. DO YOU FEEL
A. MORE PRACTICAL THAN INGENIOUS
B. MORE INGENIOUS THAN PRACTICAL
53. WHICH PERSON IS MORE TO BE COMPLIMENTED: ONE OF
A. CLEAR REASON B. STRONG FEELING
54. ARE YOU INCLINED MORE TO BE
A. FAIR-MINDED B. SYMPATHETIC

55. IS IT PREFERABLE MOSTLY TO
 - A. MAKE SURE THINGS ARE ARRANGED
 - B. JUST LET THINGS HAPPEN
56. IN RELATIONSHIPS SHOULD MOST THINGS BE
 - A. RENEGOTIABLE
 - B. RANDOM AND CIRCUMSTANTIAL
57. WHEN THE PHONE RINGS DO YOU
 - A. HASTEN TO GET TO IT FIRST
 - B. HOPE SOMEONE ELSE WILL ANSWER
58. DO YOU PRIZE MORE IN YOURSELF
 - A. A STRONG SENSE OF REALITY
 - B. A VIVID IMAGINATION
59. ARE YOU DRAWN MORE TO
 - A. FUNDAMENTALS
 - B. OVERTONES
60. WHICH SEEMS THE GREATER ERROR:
 - A. TO BE TOO PASSIONATE
 - B. TO BE TOO OBJECTIVE
61. DO YOU SEE YOURSELF AS BASICALLY
 - A. HARD-HEADED
 - B. SOFT-HEARTED
62. WHICH SITUATION APPEALS TO YOU MORE:
 - A. THE STRUCTURED AND SCHEDULED
 - B. THE UNSTRUCTURED AND UNSCHEDULED
63. ARE YOU A PERSON THAT IS MORE
 - A. ROUTINIZED THAN WHIMSICAL
 - B. WHIMSICAL THAN ROUTINIZED
64. ARE YOU MORE INCLINED TO BE
 - A. EASY TO APPROACH
 - B. SOMEWHAT RESERVED
65. IN WRITINGS DO YOU PREFER
 - A. THE MORE LITERAL
 - B. THE MORE FIGURATIVE

66. Is IT HARDER FOR YOU TO
A. IDENTIFY WITH OTHERS
B. UTILIZE OTHERS
67. WHICH DO YOU WISH MORE FOR YOURSELF:
A. CLARITY OF REASON
B. STRENGTH OF COMPASSION
68. WHICH IS THE GREATER FAULT:
A. BEING INDISCRIMINATE
B. BEING CRITICAL
69. Do YOU PEFER THE
A. PLANNED EVENT
B. UNPLANNED EVENT
70. Do YOU TEND TO BE MORE
A. DELIBERATE THAN SPONTANEOUS
B. SPONTANEOUS THAN DELIBERATE

Answer Sheet

Enter a check for each answer in the column for a or b

a		b		a		b		a		b		a		b		a		b	
1				2				3				4				5			
6				7				8				9				10			
11				12				13				14				15			
16				17				18				19				20			
21				22				23				24				25			
26				27				28				29				30			
31				32				33				34				35			
36				37				38				39				40			
41				42				43				44				45			
46				47				48				49				50			
51				52				53				54				55			
56				57				58				59				60			
61				62				63				64				65			
66				67				68				69				70			

1	2	3	4	5	6	7	8
E I		S N		T F		J P	

Directions for Scoring

1. Add down so that the total number of "a" answers is written in the box at the bottom of each column (see next page for illustration). Do the same for the "b" answers you have checked. Each of the 14 boxes should have a number in it.

2. Transfer the number in box No. 1 of the answer sheet to box No. 1 below the answer sheet. Do this for box No. 2 as well. Note, however, that you have two numbers for boxes 3 through 8. Bring down the first number for each box beneath the second, as indicated by the arrows. Now add all the pairs of numbers and enter the total in the boxes below the answer sheet, so each box has only one number.

Note: Instrument taken from Please Understand Me: An Essay on Temperament Types, by Keirsey and Bates, Prometheus Nemesis Books, Ca. 1978.

APPENDIX B

April 7, 1981
1648 Charles #B3
St. Paul, MN 55104

Dr. David Keirse
c/o Counseling Department
California State University/Fullerton
800 N. State College
Fullerton, CA 92634

Dear Dr. Keirse,

I'm a M.A. candidate in the Adult Education Program at the University of Minnesota and am writing to ask for your assistance in regards to the measuring instrument in your book Please Understand Me, the Keirse Temperament Sorter. My research question is: Is there a relationship between personality type of older adults and their degree of participation in adult education. Degree of participation will be measured by a brief instrument, the Abbreviated Leisure Activities Survey designed by Ann Litchfield.

The following questions outline my requests more specifically:

1. Do you have any information available on the reliability and validity of the Keirse Temperament Sorter?
2. Do you have any reason to believe that the Keirse Temperament Sorter would be inappropriate for use with older adults (persons sixty-five to ninety years of age)?
3. Have you, or other researchers of whom you are aware, continued the study of temperament styles using all or parts of the Keirse Temperament Sorter?
4. If I should find that your measuring instrument is appropriate for use in my study, may I have permission to use it?

Your book, Please Understand Me, has been most useful and interesting to me. I have found the information helpful in formulating my research proposal and literature review.

Thank you in advance for your assistance in responding to my requests. I hope to begin collecting the data in May, 1981.

Sincerely,

Betsy I. Gerads

Dear Betsy,

Subject agreement validity for both Sorter and MBTI is .5 with each other and .75 for college students. Thus they pick out 50 of 100 the same, then each picks out another 25 correctly, but they're different people, and they both miss 25 of 100 on one dimension or another. I've no idea about the reliability of Sorter, but my guess is it's a rather stable test.

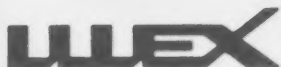
OVER

I can't think of any reason not to use it on older subjects. I've used the Sorter for several semesters in conjunction with the MBTI (60 students per semester) so I'm reasonably sure the two tests are comparable. I think MBTI does a better job on the TF scale whild Sorter does better on the NS scale, but I'm not at all sure of this. People around the country are in fact using the sorter as a research tool, but I've none of their results yet. By all means use the Sorter in your research, but I advise you to use both Sorter and MBTI if you have time, and ask your subjects which points to the right Type when the two tests disagree.

Good Luck,

John Neering

APPENDIX C



COOPERATIVE EXTENSION PROGRAMS
UNIVERSITY OF WISCONSIN-EXTENSION

436 LOWELL HALL 610 LANGDON STREET MADISON, WISCONSIN 53706 262-1411 • AREA CODE 608

FAMILY LIVING EDUCATION

April 17, 1981

Ms. Betsy I. Gerads
1648 Charles B3
St. Paul, MN 55104

Dear Ms. Gerads:

Enclosed please find the instrument you requested in your recent letter to Dr. Ann Litchfield.

I'm afraid that we cannot answer the questions you asked. Dr. Litchfield passed away unexpectedly one year ago this month. However, I am sure she would have sent you this material and told you that you could use it in your study, should you find it an appropriate piece.

I wish you good luck with your research, and do hope you find this information helpful.

Sincerely,

Rosemary T. Stare

Rosemary T. Stare
Acting Statewide Program Chairman
Family Living Education

RTS/pm

Enclosure

LEISURE ACTIVITIES SURVEY *

DIRECTIONS: The purpose of this survey is to find out what kinds of things people do in their spare time. On the following pages, a number of activities are mentioned. You will probably find that you take part in some of the activities and do not take part in others. Please answer every statement, as it is read out loud.

SECTION A - FOR EACH OF THE ACTIVITIES CIRCLE THE LETTER OF THE ANSWER STATEMENT WHICH BEST DESCRIBES HOW OFTEN DURING THE PAST TWELVE MONTHS YOU TOOK PART IN THE ACTIVITY.

ACTIVITIES	NOT AT ALL	LESS THAN ONCE A WEEK	ONCE OR TWICE A WEEK	3 OR 4 TIMES A WEEK	ONCE A DAY	MORE OFTEN THAN ONCE A DAY
1. CHATTED OR VISITED WITH FRIENDS, RELATIVES, OR NEIGHBORS	A	B	C	D	E	F
2. READ A NEWSPAPER	A	B	C	D	E	F
3. WATCHED NEWS ON TV OR LISTENED TO NEWS ON THE RADIO	A	B	C	D	E	F
4. WATCHED A GENERAL TV PROGRAM OR LISTENED TO A GENERAL RADIO PROGRAM, SUCH AS A VARIETY SHOW, DRAMA, WESTERN, OR A COMEDY	A	B	C	D	E	F
5. LISTENED TO AN INFORMATIONAL PROGRAM ON RADIO OR WATCHED AN INFORMATIONAL PROGRAM ON TV, SUCH AS A PERSONAL INTERVIEW, CONSUMER TIPS, OR A DISCUSSION SHOW.	A	B	C	D	E	F
6. LISTENED TO MUSIC ON RECORDS OR TAPE	A	B	C	D	E	F
7. PLAYED PIANO OR OTHER MUSICAL INSTRUMENT	A	B	C	D	E	F

SECTION B - CIRCLE THE LETTER WHICH BEST DESCRIBES HOW OFTEN DURING THE PAST TWELVE MONTHS YOU TOOK PART IN THE ACTIVITY.

PLEASE NOTE THAT THESE ANSWER STATEMENTS ARE NOT THE SAME AS THOSE IN OTHER PARTS OTHER PARTS OF THE SURVEY.

ACTIVITIES	NOT AT ALL	LESS THAN ONCE A MONTH	ONCE A MONTH	2 OR 3 TIMES A MONTH	ONCE A WEEK	MORE OFTEN THAN ONCE A WEEK
8. WENT TO A CHURCH SERVICE	A	B	C	D	E	F
9. CREATIVE HANDWORK SUCH AS NEEDLE-CRAFT, PAINTING, SCULPTING, KNITTING	A	B	C	D	E	F
10. WENT TO A MEETING OF SOME BUSINESS PROFESSIONAL, CIVIC, POLITICAL, OR LABOR GROUP	A	B	C	D	E	F

* Items adapted and used with permission from Abbreviated Leisure Activities Survey. Ann Litchfield. University of Chicago. 1968

ACTIVITIES	NOT AT ALL	LESS THAN ONCE A MONTH	ONCE A MONTH	2 OR 3 TIMES A MONTH	ONCE A WEEK	MORE THAN ONCE A WEEK
11. WENT TO A MEETING OF A RELIGIOUS GROUP	A	B	C	D	E	F
12. READ ONE OR MORE MAGAZINES DEALING WITH A SPECIAL INTEREST OR HOBBY	A	B	C	D	E	F
13. READ A TECHNICAL, PROFESSIONAL, TRADE, OR FARM MAGAZINE	A	B	C	D	E	F
14. READ A LITERARY OR CULTURAL MAGAZINE SUCH AS "THE SATURDAY REVIEW", "HARPER'S", OR "ATLANTIC MONTHLY"	A	B	C	D	E	F
15. READ A POPULAR GENERAL MAGAZINE, SUCH AS "READER'S DIGEST", "PEOPLE", OR "LIFE"	A	B	C	D	E	F
16. READ A WOMEN'S MAGAZINE, SUCH AS "REDBOOK", OR "BETTER HOMES AND GARDENS"	A	B	C	D	E	F
17. READ A CURRENT EVENTS PERIODICAL SUCH AS "TIME", "NEWSWEEK", OR "U.S. NEWS AND WORLD REPORT"	A	B	C	D	E	F
18. PLAYED A GAME, SUCH AS CHESS, BRIDGE CHECKERS, "500", CRIBBAGE OR GIN	A	B	C	D	E	F
19. SERVED AS A VOLUNTEER IN SOME WORTHWHILE CAUSE	A	B	C	D	E	F

SECTION C - CIRCLE THE LETTER WHICH BEST DESCRIBES HOW OFTEN DURING THE PAST TWELVE MONTHS YOU TOOK PART IN THE ACTIVITY.

PLEASE NOTE THAT THESE ANSWER STATEMENTS ARE NOT THE SAME AS THOSE IN OTHER PARTS OF THE SURVEY.

ACTIVITIES	NOT AT ALL	ONCE OR TWICE A YEAR	ABOUT EVERY 4 TO 6 MONTHS	ABOUT EVERY 2 TO 3 MONTHS	ONCE A MONTH	MORE OFTEN THAN ONCE A MONTH
20. READ A NUMBER OF BOOKS ON A SUBJECT I WANT TO LEARN MORE ABOUT	A	B	C	D	E	F
21. READ A POPULAR FICTION BOOK OR ARTICLE SUCH AS A WESTERN, MYSTERY, ADVENTURE, OR SCIENCE FICTION	A	B	C	D	E	F
22. READ A NON-FICTION BOOK OR ARTICLE ON A GENERAL SUBJECT, SUCH AS PSYCHOLOGY, ART, ECONOMICS, HISTORY, BIOGRAPHY, OR SCIENCE	A	B	C	D	E	F
23. READ A PRACTICAL NON-FICTION BOOK OR ARTICLE ON A SUBJECT, SUCH AS GARDENING, SEWING, IMPROVING MY ENVIRONMENT, OR MECHANICS	A	B	C	D	E	F

ACTIVITIES	NOT AT ALL	ONCE OR TWICE A YEAR	ABOUT EVERY 4 TO 6 MONTHS	ABOUT EVERY 2 TO 3 MONTHS	ONCE A MONTH	MORE OFTEN THAN ONCE A MONTH
24. READ A BOOK OR ARTICLE DEALING WITH MY TRADE, PROFESSION, OR BUSINESS	A	B	C	D	E	F
25. WENT OUT TO DINNER	A	B	C	D	E	F
26. WENT DANCING	A	B	C	D	E	F
27. WENT TO SEE A CURRENT POPULAR MOVIE, OR A PLAY	A	B	C	D	E	F
28. SAW AN ART FILM ON TV, AT A MUSEUM OR THEATER	A	B	C	D	E	F
29. WENT TO A CONFERENCE, AN INSTITUTE, OR A WORKSHOP	A	B	C	D	E	F
30. WENT FOR A TRIP ESPECIALLY TO SEE SOME HISTORICAL OR OTHER IMPORTANT LANDMARK	A	B	C	D	E	F
31. WENT TO A MEETING OF A GROUP ORGANIZED TO DISCUSS OR LEARN ABOUT THINGS	A	B	C	D	E	F
32. ATTENDED AN ATHLETIC OR SPORTING EVENT AS A SPECTATOR	A	B	C	D	E	F
33. TOOK PART IN A SPORT, SUCH AS SOFTBALL, GOLFING, BOWLING, FISHING, OR BOATING		B	C	D	E	F
34. FOLLOWED A COURSE OR CLASS OFFERED ON A TV OR RADIO	A	B	C	D	E	F

SECTION D - CIRCLE THE LETTER WHICH BEST DESCRIBES HOW OFTEN DURING THE PAST TWELVE MONTHS YOU TOOK PART IN THE ACTIVITY.

PLEASE NOTE THAT THESE ANSWER STATEMENTS ARE NOT THE SAME AS THOSE IN OTHER PARTS OF THE SURVEY.

ACTIVITIES	NOT AT ALL	ONCE	2 OR 3 TIMES	4 OR 5 TIMES	6 OR 7 TIMES	8 TIMES OR MORE
35. WENT TO AN AMUSEMENT PARK OR CARNIVAL	A	B	C	D	E	F
36. WENT TO AN ANTIQUE SHOW, AUTO SHOW, FAIR, OR OTHER TYPE OF DISPLAY	A	B	C	D	E	F
37. TOOK A COURSE AT A UNIVERSITY, A COLLEGE, OR A PUBLIC SCHOOL SUCH AS COMMUNITY EDUCATION ADULT CLASSES	A	B	C	D	E	F
38. TOOK A CORRESPONDENCE OR HOME STUDY COURSE	A	B	C	D	E	F

ACTIVITIES	NOT AT ALL	ONCE	2 OR 3 TIMES	4 OR 5 TIMES	6 OR 7 TIMES	8 TIMES OR MORE
39. TOOK A COURSE OR WORKSHOP GIVEN BY SOME COMMUNITY ORGANIZATION LIKE THE "Y", RED CROSS, LIBRARY, OR A SENIOR CENTER.	A	B	C	D	E	F
40. ATTENDED A LARGE MEETING OR CONVENTION	A	B	C	D	E	F

SECTION E - CIRCLE THE LETTER WHICH BEST DESCRIBES HOW OFTEN DURING THE PAST TWELVE MONTHS YOU TOOK PART IN THE ACTIVITY.

PLEASE NOTE THAT THESE ANSWERS ARE NOT SAME AS THOSE IN OTHER PARTS OF THE SURVEY.

ACTIVITY	NOT AT ALL	SELDOM	SOME- TIMES	OFTEN	VERY OFTEN	REPEAT- EDLY
41. WENT ON A PICNIC	A	B	C	D	E	F
42. WORKED IN A FLOWER GARDEN	A	B	C	D	E	F
43. TAUGHT SOMETHING TO A FRIEND OR A MEMBER OF THE FAMILY	A	B	C	D	E	F
44. CONSULTED AN ENCYCLOPEDIA, ATLAS, WORLD ALMANAC, OR OTHER REFERENCE SOURCE	A	B	C	D	E	F
45. LISTENED TO A TEACHING RECORD OR TAPE, SUCH AS ONE WHICH TEACHES A FOREIGN LANGUAGE	A	B	C	D	E	F
46. DID REDECORATING, PAINTING, LANDSCAPING, REPAIR WORK AROUND THE HOUSE.	A	B	C	D	E	F
47. PLAYED WITH CHILDREN OR GRAND-CHILDREN	A	B	C	D	E	F
48. WENT SHOPPING FOR MYSELF OR OTHER PEOPLE	A	B	C	D	E	F
49. THOUGHT ABOUT AN ABSTRACT QUESTION SUCH AS, WHAT IS TRUTH? BEAUTY? OR THE PLACE OF MAN IN THE SCHEME OF THINGS?	A	B	C	D	E	F
50. BROWSED IN A BOOKSTORE OR LIBRARY	A	B	C	D	E	F

THANK YOU VERY MUCH FOR YOUR HELP !

Scoring Instructions for Abbreviated Leisure Activities Survey (ALAS)

The ALAS includes 21 items that are judged to be educative on a scale of 1 to 4 by a panel of expert adult educators. These items are listed by number as they appear on the questionnaire with the assigned educative value:

<u>Item Number</u>	<u>Educative Value</u>	<u>Item Number</u>	<u>Educative Value</u>
5	2	29	4
11	1	30	2
12	4	31	4
13	4	34	4
14	4	38	4
17	3	39	4
20	4	44	4
22	4	45	4
23	4	49	4
24	4	50	1
28	2		

The second dimension of the score is the frequency with which the respondent does the activity. There are 6 responses provided for each of the items in the ALAS. For each of the five sections of the ALAS, the values assigned to the 6 responses are as follows:

- a (not at all) = 0
- b = 1
- c = 2
- d = 3
- e = 4
- f = 5

Susanne Fisher
5-13-81

Refer to pages 44 and 45 for additional information.

APPENDIX D

DIRECTIONS: The following information is necessary for study purposes. Your name and address is not required. All replies will be kept confidential. Please circle the number of the answer that applies for you.

MARITAL STATUS

(circle number
that applies) _____

1. Single
2. Married
3. Widowed
4. Divorced

SEX

(circle number
that applies) _____

1. Female
2. Male

YOUR EDUCATION

(circle highest number
that applies) _____

1. Less than 8th grade
2. 8th to 11th grade
3. High school graduate
4. Some college or
technical/vocational school
5. College graduate
6. Graduate training

AGE

(circle number
that applies) _____

1. 64 years or less
2. 65 - 74 years
3. 75 years and above

ABOUT HOW OFTEN DO YOU COME TO THE SENIOR CENTER?
(circle number that applies) _____

1. Not at all
2. Less than once a month
3. Once a month
4. 2 or 3 times a month
5. Once a week
6. More often than once a week

THE END

Thank you ! Your contribution to this study is greatly appreciated.

APPENDIX E

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Table 10

Mean Scores: Items Not Included in EPS*
from Abbreviated Leisure Activities Survey

N = 52

Item	Mean Score	Number: No Involvement
1. Watched news on TV or listened to news on the radio	4.442	0
2. Went out to dinner	4.216	2
3. Chatted or visited with friends, relatives, or neighbors	3.769	0
4. Read a newspaper	3.654	1
5. Went shopping for myself or other people	3.538	1
6. Went to a church service	3.519	6
7. Watched a general TV program or listened to a general radio program, such as a variety show, drama, western or a comedy	3.442	4
8. Played with children or grandchildren	2.962	5
9. Creative handwork such as needlecraft, painting, sculpting, knitting	2.962	15
10. Read a popular general magazine, such as <u>Reader's Digest</u> , <u>People</u> , or <u>Life</u>	2.608	9
11. Taught something to a friend or a member of the family	2.558	3
12. Played a game, such as chess, bridge, checkers, "500", cribbage or gin	2.558	14
13. Served as a volunteer in some worthwhile cause	2.423	14
14. Listened to music on records or tape	2.038	16
15. Read a women's magazine, such as <u>Redbook</u> , or <u>Better Homes and Gardens</u>	1.846	14
16. <u>Worked in a flower garden</u>	1.827	23
17. Read a popular fiction book or article such as a western, mystery, adventure or science fiction	1.788	26
18. Went on a picnic	1.712	7
19. Went to an antique show, auto show, fair, or other type of display	1.692	8
20. Did redecorating, painting, landscaping, or repair work around the house	1.692	17
21. Took part in a sport, such as softball, golfing, bowling, fishing, or boating	1.986	20
22. Went to see a current popular movie or a play	1.385	27
23. Went to a meeting of some business, professional, civic, political or labor group	1.216	24

Table 10

Mean Scores: Items Not Included in EPS*
from Abbreviated Leisure Activities Survey

(Continued)

N = 52

<u>Item</u>	<u>Mean Score</u>	<u>Number: No Involvement</u>
24. Went to an amusement park or carnival	1.058	22
25. Attended an athletic or sporting event as a spectator	.941	33
26. Attended a large meeting or convention	.712	32
27. Went dancing	.673	37
28. Played piano or other musical instrument	.255	45
29. Took a course at a university, a college, or a public school such as community education adult classes	.173	47

APPENDIX F

DO NOT FILM THIS PAGE

Table 11

Sociodemographic Characteristics
of Wilder Senior Center Members
N = 5752

Variable

A. Age

The median age of members was 71 years and 8 months with a range of 48 to 107 years. Over 99 percent of the enrollees were over 60 years old.

B. Marital Status	Number	Percent
Single	648	11
Married	2268	39.6
Widowed	2471	43
Divorced	293	5
Separated	52	.09
Total	5752	100.00

C. Sex

Female	4230	73
Male	1522	26

D. Education

Median = 8th grade education*

E. Attendance Frequency at the Senior Center

Average user visits the Center about 1.8 times a month.

*More specific data not available

Source: A Service Analysis of the Wilder Senior Center

Conducted by the Planning and Development Office,
June 1979
The Wilder Foundation